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Summary of Cotton Fiber and Processing Test Results

CROP of

1971



U.S. DEPARTMENT OF AGRICULTURE
Consumer and Marketing Service
Cotton Division, April 1972

SUMMARY OF COTTON FIBER AND PROCESSING TEST RESULTS
CROP OF 1971

INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton from major commercial production areas of the United States. Similar reports have been published annually since 1946-1/ ? These reports summarize and add supplemental information to the data published in biweekly reports which were titled "Cotton Fiber and Processing Test Results, Crop of 1971" and numbered 1 through 13.

The results of fiber and spinning tests made in connection with these annual surveys provide data for studies of the relationships between fiber properties, processing performance and product quality. The data are used to measure the effectiveness of the standards to be sure that they continue to reflect differences in spinning utility. Publication of the bi-weekly reports enables merchants and manufacturers to use the results to locate sources of cotton to meet their specific requirements. Farmers and breeders may also use the data as a source of quality information regarding the various varieties of cottons produced under commercial growing conditions.

SAMPLING PROCEDURES

The procedure for selecting samples for the 1971 survey was designed to provide test lots representing all major varieties in each of the territories served by Cotton Division classing offices. Variety selections were based on the predominant varieties planted in each classing office territory as reported by the Cotton Division in "Cotton Varieties Planted, 1967-1971". A production area was selected to represent the leading variety and one to represent each of the other varieties with an expected production of 10,000 bales or more in each classing office territory. Additional areas were selected for those varieties with a production of over 125,000 bales. One additional production area was selected for each 125,000 bales or portion thereof in excess of the first 125,000 bales. Production areas with at least 70 percent of one variety were designated as that variety with no attempt made to maintain the purity of the variety except by selection of representative production areas. However, in some cases, where there was unusual interest in a particular variety and a low percentage was planted in the area, the classing offices selected lots representing 100 percent of the variety. The locations of the production areas selected for the 1971 survey are shown on figure 1.

1/ Copies of past summary reports may be obtained from the Standardization Section, Cotton Division, C&MS, USDA, P. O. Box 17723, Memphis, Tennessee 38117 until supplies are exhausted. ✓

DISTRIBUTION OF PRODUCTION AREAS
FROM WHICH COTTON SAMPLES WERE TESTED, CROP OF 1971

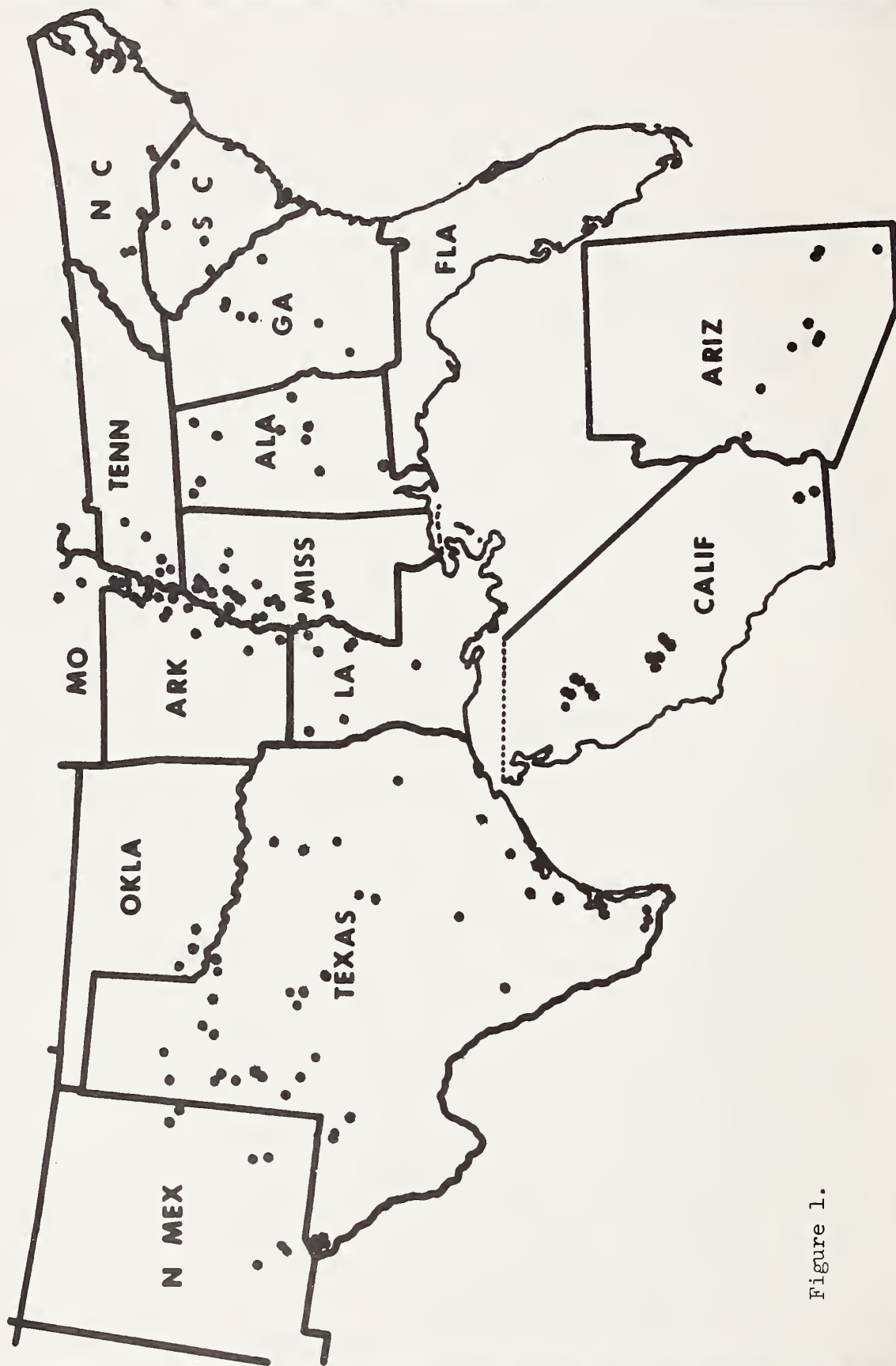


Figure 1.

Test lots were collected from each production area at intervals of three weeks during the harvest season. Lots were selected to represent the predominant grade and staple being classed at the time of collection. For the most part, these areas produce the specified qualities in quantities large enough to enable buyers to obtain lots of even-running grade and staple. Obviously, other qualities of cotton are available in each area as a result of normal seasonal, soil, harvesting and other variations. Most production areas also produce cotton of varieties other than those included in the tests.

Each spinning lot used in this study was made up of 20 to 30 samples of the same grade and staple length from bales classed for growers under the Smith-Doxey Act. These even-running lots of samples were then tested at Cotton Division fiber and spinning laboratories. While this method of collecting samples does not provide data for all qualities in the crop, it does provide average test results for those qualities in largest supply during each three-week period.

LABORATORY PROCEDURES

As in previous years, all tests in this study were performed in the Cotton Division laboratories at College Station, Texas and Clemson, South Carolina. Fiber and spinning tests on all long and extra long staple lots and on medium staple lots from Missouri and states east of the Mississippi River were performed at the Clemson laboratory. Fiber and spinning tests on all short staple lots and on medium staple lots from states west of the Mississippi River, except Missouri, were performed at the College Station laboratory. Chemical finishing tests on all lots were performed at the Clemson laboratory.

Fiber, spinning, and chemical finishing tests were performed under standardized laboratory procedures. Most of the fiber tests were performed in the standard atmospheric conditions of 65 percent relative humidity at a temperature of 70 degrees F. Standard test procedures as outlined by the American Society for Testing and Materials were used in making tests. Tests not covered by ASTM were performed using commonly accepted procedures as recommended by the instrument manufacturer. Five subsamples were taken at random from each spinning lot to provide representative specimens for the fiber tests.

Yarn processing or spinning tests were performed by a technique developed in the Cotton Division laboratories for processing small lots of cotton on standard-type textile machines. The samples in each lot were thoroughly composited by hand-mixing before being fed to the first process picker. This hand-mixing is similar to the machine mixing normally obtained in cotton textile opening equipment. Observations were made at each process to measure processing behavior and the yarns produced were tested to measure product quality.

On the basis of average past performance, cottons were grouped according to the expected staple length for the specified variety. All cottons of the specified variety were spun in the same manner regardless of differences in staple length. This was done so that direct comparisons of different lots of cotton within a specified variety could be made. These samples were carded at specified production rates and spun into numbers that reflect the manufacturing values of the varieties tested. In general, the rates of carding and yarn numbers spun from the 1971 crop are as follows:

Group 1.--Short staple cottons, carded at 12-1/2 pounds per hour and spun into carded 8s and 22s yarns with a twist multiplier of 4.40 plus a carded yarn spinning potential test for all lots. This includes varieties which normally produce staple lengths 31/32 and shorter.

Group 2.--Medium staple cottons, carded at 9-1/2 pounds per hour and spun into carded 22s and 50s yarns with a twist multiplier of 4.00 plus a carded yarn spinning potential test for all lots. This group includes varieties which normally produce cottons from 1 inch through 1-3/32 inches in staple length.

Group 3.--Long staple cottons, carded at 6-1/2 pounds per hour and spun into both carded and combed 22s and 50s yarns with a twist multiplier of 3.80 plus a carded yarn spinning potential test for all lots. This group includes upland varieties which normally produce cottons from 1-1/8 inches through 1-1/4 inches in staple length.

Group 4.--Extra long staple cottons, carded at 4-1/2 pounds per hour and spun into combed 50s and 80s yarns with a twist multiplier of 3.60. This group includes all American Pima and American upland extra long staple varieties, which are usually 1-5/16 inches or longer in staple length.

Skeins of yarn from each spinning test lot were bleached and dyed by a technique developed in the Cotton Division laboratories for small scale finishing tests. Color tests were made on gray and chemically finished skeins of yarn as measures of the bleaching and dyeing behavior.

TEST RESULTS

A total of 425 short, medium and long staple American upland spinning lots was tested from the 1971 crop compared to 493 from the 1970 crop. Average results showed the 1971 cottons to be slightly less uniform, slightly finer and weaker than the 1970 cottons. The 1971 cottons showed higher trash content on both the Shirley Analyzer and picker and card waste tests. Yarns spun from

these cottons were weaker with better appearance grades, but with slightly more imperfections. Average spinning potential yarn number was lower than in 1970. (Table 1)

A total of 317 medium staple American upland spinning lots was tested from the 1971 crop compared to 390 from the 1970 crop. Average results showed the 1971 cottons to be slightly longer by the Fibrograph 2.5 percent span length, slightly less uniform, and weaker at zero gage fiber strength than the 1970 cottons. Both Shirley Analyzer nonlint content and picker and card waste were slightly lower in 1971. Yarns spun from these samples were slightly weaker with better appearance grades and the same number of imperfections. Average spinning potential yarn number was slightly lower in 1971.

A total of 40 long staple American upland spinning lots was tested from the 1971 crop. This compares to 40 tested in 1970. Average results showed the 1971 cottons to be slightly less uniform, finer and weaker than the 1970 cottons. Shirley Analyzer nonlint content of the 1971 cottons was lower than the 1970 cottons while picker and card waste was higher. Yarns spun from these samples were weaker with better appearance grades and fewer imperfections than in 1970. Average spinning potential yarn number was higher.

The Southeastern production area includes the states of Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama. A total of 68 medium staple spinning lots was tested from this area in 1971 compared to 83 in 1970. Average results showed the 1971 medium staple cottons to be slightly longer and weaker than in 1970. Both Shirley Analyzer nonlint content and picker and card waste were lower. Yarns spun from these samples were weaker with better appearance grades. Yarns showed more imperfections than in 1970. Average spinning potential yarn number was slightly higher.

A total of 16 long staple American upland spinning lots from the Southeastern area was tested in 1971 compared to 14 lots in 1970. Average results showed the 1971 cottons to be less uniform, finer and weaker than in 1970. Shirley Analyzer nonlint content was lower while picker and card waste was higher. Yarns spun from these long staple samples were weaker with higher appearance grades but showed slightly more imperfections.

The South Central production area includes the states of Tennessee, Missouri, Mississippi, Arkansas and Louisiana. In 1971, a total of 141 medium staple spinning lots was tested from this area. This compares to 171 lots tested from the 1970 crop. Average results showed the 1971 cottons to be slightly longer, less uniform, finer and weaker at zero gage fiber strength than cottons from the 1970 crop. Both Shirley Analyzer nonlint content and picker and card waste were lower. Yarns spun from these samples were slightly stronger with better appearance grades and fewer imperfections. Average spinning potential yarn number was higher than last season.

Three long staple American upland spinning lots were tested from the South Central area in 1971 compared to 6 from the 1970 crop. Average results on these lots showed the 1971 cottons to be longer, slightly more uniform, finer and weaker at zero gage fiber strength than the cottons tested in 1970. Both Shirley Analyzer nonlint content and picker and card waste were higher in 1971. Yarns spun from these samples were stronger with better appearance grades and fewer imperfections. Average spinning potential yarn number was higher than in 1970.

The Southwestern production area consists of the states of Oklahoma and Texas, except far west Texas (served by the Pecos and El Paso classing offices). A total of 68 short staple American upland spinning lots was tested from this area for the 1971 crop. This compares to 63 lots for the 1970 crop. Average results from short staple samples tested show the 1971 cottons to be slightly longer, less uniform, much finer and weaker than the 1970 crop cottons. Both Shirley Analyzer nonlint content and picker and card waste were higher. Yarns spun from these short staple samples were weaker with slightly lower appearance grades and more imperfections than in 1970. Average spinning potential yarn number was lower in 1971.

A total of 48 medium staple American upland spinning lots was tested from the Southwestern area from the 1971 crop compared to 66 in 1970. Average results on medium staple cottons from this area show the 1971 cottons to be shorter, less uniform, finer and weaker than 1970 cottons. Both Shirley Analyzer nonlint content and picker and card waste were higher. Yarns spun from these samples were weaker but with slightly higher appearance grades. Yarn imperfections were higher in 1971 than in 1970. Average spinning potential yarn number was lower than in 1970.

The Western production area consists of the states of California, Arizona, New Mexico and far west Texas. A total of 60 medium staple spinning lots was tested from the 1971 crop in this area compared to 70 from the 1970 crop. Average results from these medium staple samples show the 1971 cottons to be longer and slightly weaker at zero gage fiber strength than the 1970 crop. Picker and card waste was lower while Shirley Analyzer nonlint content remained the same. Yarns spun from these samples were stronger with higher appearance grades and slightly fewer imperfections than in 1970.

A total of 21 (including 6 lots of roller ginned cotton) long staple American upland spinning lots was tested in 1971 from the Western area. This compares to 20 spinning lots tested from the crop of 1970. Average results from these lots showed the 1971 cottons to be shorter, slightly less uniform, finer and weaker than those lots tested in 1970. Shirley Analyzer nonlint content was lower while picker and card waste was higher. Yarns spun from these samples were weaker but with better appearance grades and fewer imperfections. Average spinning potential yarn number was higher in 1971.

A total of 25 extra long staple American Pima spinning lots was tested from the Western Area in 1971 compared to 18 in 1970. Average results showed the 1971 cottons to be shorter, coarser and slightly weaker than the 1970 cottons. Shirley Analyzer nonlint content and comber waste were lower in 1971 while picker and card waste was higher. Yarns spun from these samples were weaker with higher appearance grades and fewer imperfections than in 1970.

Table 1.--Cotton: Average results of classification, fiber and processing tests from selected gin points, crops of 1970 and 1971 1/

Area and Crop Year	Lots tested	Grade	Staple	Fiber test results						Processing test results				
				Fibrograph		Mike	Strength		Total non- lint	Picker & Card waste	Skein strength 22s	Appear- ance 22s	Yarn imperf. 22s	Spin. Potent.
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage						
SHORT STAPLE - American upland														
Southwest														
1970	63	93	30.4	0.94	46	4.3	86	21	3.2	6.2	93	114	29	43
1971	68	86	30.3	0.95	45	3.8	79	20	4.3	7.1	86	112	40	38
MEDIUM STAPLE - American upland														
Southeast														
1970	83	90	34.1	1.07	45	4.4	83	23	3.6	6.7	102	101	18	60
1971	68	88	34.4	1.08	45	4.4	79	22	3.4	6.6	99	109	20	61
South Central														
1970	171	91	34.3	1.09	45	4.4	82	22	3.2	6.2	102	106	22	61
1971	141	92	34.8	1.10	44	4.3	81	22	3.0	5.9	103	112	20	62
Southwest														
1970	66	92	33.5	1.06	46	4.2	87	23	3.2	6.3	106	113	29	62
1971	48	88	32.7	1.04	44	4.0	84	22	3.8	6.5	102	114	35	55
West														
1970	70	97	35.1	1.10	45	4.2	93	25	2.7	5.7	118	113	25	70
1971	60	97	35.3	1.12	45	4.2	92	25	2.7	5.3	121	120	24	70
Average														
1970	390	92	34.3	1.08	45	4.3	85	23	3.2	6.2	106	107	23	63
1971	317	91	34.5	1.09	44	4.3	83	23	3.1	6.0	105	113	23	62

1/ Based on a limited number of samples of modal quality

Table 1.--Continued

Area and Crop Year	Lots tested	Grade	Staple	Fiber test results					Processing test results					
				Fibrograph		Mike	Strength		Total non- lint	Picker & Card waste	Skein strength 22s	Appear- ance 22s	Yarn imperf. 22s	Spin. Potent.
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage						
LONG STAPLE - American upland														
Southeast														
1970	14	86	35.2	1.14	45	4.7	82	23	4.5	8.6	109	103	21	65
1971	16	85	35.4	1.14	43	4.3	79	22	4.2	9.7	102	109	22	65
South Central														
1970	6	85	35.3	1.16	42	4.6	85	24	4.5	9.2	102	93	26	62
1971	3	85	37.0	1.22	43	4.5	83	24	5.3	9.6	113	107	20	70
West														
1970	20	96	37.0	1.18	45	3.7	92	27	3.5	8.2	134	86	43	75
1971	21 2/	98	36.9	1.16	44	3.6	91	26	2.6	9.1	127	96	29	78
Average														
1970	40	91	36.1	1.16	45	4.2	87	25	4.0	8.5	120	93	33	70
1971	40	92	36.3	1.16	44	3.9	86	24	3.4	9.4	116	102	26	72
U. S. UPLAND AVG.														
1970	493	92	33.9	1.07	45	4.3	86	23	3.2	6.4	105	107	24	61
1971	425	91	34.0	1.07	44	4.2	83	22	3.4	6.5	103	112	26	59
EXTRA LONG STAPLE - American Pima														
West														
1970	18	3	45.0	1.48	31	3.6	100	34	3.5	8.0	70	110	4	Comber Waste 17.7
1971	25	4	44.4	1.45	31	3.8	99	33	2.7	8.5	65	112	3	17.5

2/ Includes 6 lots of roller ginned cotton

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1970 and 1971

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential			
		Grade	32d in.	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Pct.	Rdg.	Mpsi			g/tex	Pct.	No.	Index	Pct.	No.
						No.			Index	No.				Index	No.			
SOUTHEAST																		
Medium staple:																		
Alabama																		
1970	43	90	33.8	1.06	44	4.4	82	22	5.4	3.2	2	3	96	6.6	58			
1971	30	90	34.2	1.08	45	4.4	79	22	6.5	2.9	2	3	96	6.0	61			
Georgia																		
1970	16	89	34.0	1.08	46	4.4	84	23	5.2	4.1	3	3	94	7.0	62			
1971	17	87	34.1	1.06	45	4.4	78	21	6.0	3.2	3	3	93	6.7	60			
North Carolina																		
1970	9	89	34.2	1.07	47	4.5	84	24	5.3	4.5	2	3	96	7.4	63			
1971	11	86	34.7	1.06	46	4.3	81	22	6.1	4.1	3	2	91	7.1	62			
South Carolina																		
1970	15	91	35.1	1.10	45	4.5	84	23	5.4	3.5	2	3	97	6.6	64			
1971	10	82	35.2	1.12	44	4.2	78	22	6.1	4.7	4	2	90	7.7	65			
Long staple:																		
Alabama																		
1970	4	84	35.0	1.14	45	4.9	84	23	5.0	4.8	3	3	94	5.2	58			
1971	4	84	35.8	1.16	42	4.5	81	23	5.8	4.4	3	3	93	10.0	64			
Georgia																		
1970	3	91	35.0	1.12	46	4.8	83	23	5.6	3.3	3	4	96	7.5	64			
1971	7	87	34.9	1.13	44	4.5	78	22	6.4	3.7	3	3	92	9.5	64			
North Carolina																		
1970	3	89	36.0	1.16	45	4.5	81	23	6.0	4.3	3	3	94	8.4	68			
1971	1	80	36.0	1.13	41	4.1	76	19	6.5	3.0	4	3	85	9.6	59			
South Carolina																		
1970	4	84	35.0	1.16	44	4.4	81	24	6.0	5.4	2	2	94	9.0	70			
1971	4	86	35.8	1.16	42	3.8	79	22	6.5	5.1	3	3	92	10.0	68			
SOUTH CENTRAL																		
Medium staple:																		
Arkansas																		
1970	49	90	34.2	1.09	45	4.4	82	22	6.6	3.3	3	3	94	6.4	62			
1971	39	92	35.1	1.11	45	4.3	83	22	6.7	3.2	2	3	98	5.7	65			
Louisiana																		
1970	23	92	34.3	1.10	45	4.4	81	22	6.9	3.1	2	3	95	6.0	63			
1971	21	93	34.4	1.09	45	4.2	80	22	7.2	3.0	2	3	97	5.7	60			
Mississippi																		
1970	60	91	34.6	1.09	44	4.4	82	23	6.0	3.4	2	2	98	6.5	60			
1971	53	92	34.9	1.10	44	4.5	80	22	6.6	2.9	2	3	99	6.2	61			
Missouri																		
1970	15	92	34.0	1.07	46	4.4	81	22	6.8	2.8	2	3	95	5.6	62			
1971	13	94	34.9	1.09	44	4.1	79	22	6.6	2.5	2	3	100	5.4	63			

Table 2.--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
No.	Lbs. 50's	Pct. 50's	Pct. 50's	Index 50's	Index 50's	Index 50's	No.	No.	No.	Rd	4b	Index	Rd	4b	Index
SOUTHEAST															
Medium staple:															
Alabama															
1970	43	98	32	6.4	4.8	98	78	19	15	83.4	3.1	101	28.6	26.8	104
1971	30	97	34	6.5	5.0	108	83	20	16	84.5	2.9	104	26.6	27.5	111
Georgia															
1970	16	103	35	6.5	4.9	103	84	16	13	83.4	3.3	100	28.7	26.3	102
1971	17	97	33	6.3	4.9	113	86	18	16	84.4	3.1	103	27.1	27.3	109
North Carolina															
1970	9	113	40	6.5	5.2	104	88	17	14	82.9	3.0	100	28.2	26.9	105
1971	11	101	35	6.4	5.0	110	87	21	16	83.6	3.0	102	26.7	27.4	110
South Carolina															
1970	15	106	37	6.5	5.1	105	85	18	13	83.7	2.9	103	28.3	27.3	107
1971	10	103	37	6.6	5.2	106	85	24	20	84.6	2.9	104	27.0	27.1	109
Long staple:															
Alabama															
1970	4	100	34	5.9	4.5	105	80	22	16	84.2	2.7	105	29.1	26.4	102
1971	4	103	37	6.1	4.8	110	82	22	16	84.1	3.0	103	26.7	27.5	110
Georgia															
1970	3	110	38	6.5	5.2	106	83	15	12	83.2	3.7	98	27.8	26.8	105
1971	7	102	36	6.4	5.2	110	87	21	19	84.5	3.2	103	26.8	27.0	108
North Carolina															
1970	3	112	41	6.7	5.4	100	83	22	17	82.5	3.8	96	28.2	26.1	102
1971	1	88	29	6.1	4.5	120	90	18	16	83.3	4.0	97	25.9	27.7	113
South Carolina															
1970	4	114	41	6.8	5.4	100	78	24	19	83.8	2.8	103	28.5	26.3	102
1971	4	106	38	6.7	5.4	102	82	25	21	84.5	2.8	104	27.4	26.5	106
SOUTH CENTRAL															
Medium staple:															
Arkansas															
1970	49	101	35	5.8	4.3	112	89	25	19	83.3	2.7	102	27.9	26.7	105
1971	39	109	38	6.3	4.7	119	94	23	16	84.5	2.9	104	26.4	27.4	111
Louisiana															
1970	23	103	36	5.9	4.4	113	87	25	18	83.6	2.7	103	27.9	26.8	105
1971	21	103	36	6.3	4.4	117	90	27	20	84.2	2.9	104	26.8	27.2	109
Mississippi															
1970	60	103	35	6.8	5.2	98	77	20	16	83.0	2.8	102	28.1	26.9	105
1971	53	101	35	6.6	5.2	105	83	18	15	84.5	2.7	105	26.6	27.6	111
Missouri															
1970	15	101	35	6.0	4.4	117	92	22	16	83.0	2.8	101	27.4	26.7	106
1971	13	104	36	7.0	5.4	110	88	17	15	84.9	3.0	105	26.2	27.6	112

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1970 and 1971--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn			
		22s or 27 tex	Lbs.	22s or 27 tex	Pct.	22s or 27 tex	Index	22s or 27 tex	Second number	22s or 27 tex	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
SOUTH CENTRAL (Continued)																
Medium staple:																
Tennessee																
1970	24	100	34	6.6	5.1	103	82	16	13	83.1	27.9	2.9	101	26.1	26.8	105
1971	15	97	33	6.6	5.1	114	91	16	13	84.6	26.1	2.9	105	27.8	27.8	113
Long staple:																
Mississippi																
1970	3	106	37	6.4	4.8	90	73	27	19	83.1	27.9	2.8	101	26.7	26.8	105
1971	3	113	42	6.5	5.4	107	83	20	18	84.3	26.7	2.8	104	27.8	27.8	112
SOUTHWEST																
Short staple:																
Central Texas																
1970	15	90	300	5.4	6.2	116	123	25	38	83.7	28.4	3.3	101	27.2	27.2	106
1971	18	84	286	5.6	6.7	120	126	26	39	84.1	27.0	3.2	103	27.4	27.4	110
Northwest Texas																
1970	42	95	316	5.9	6.7	113	120	31	51	82.5	27.1	3.4	98	27.6	26.8	107
1971	32	86	294	6.5	7.5	107	117	47	76	84.4	27.6	3.9	100	27.6	26.2	104
Oklahoma																
1970	6	86	290	5.6	6.4	117	120	24	43	81.9	27.4	3.5	96	27.4	26.7	106
1971	9	90	305	6.5	7.4	117	122	27	45	83.1	27.4	4.4	95	27.4	26.4	105
Medium staple:																
South Texas																
1970	27	105	37	5.6	4.3	120	93	21	16	83.9	27.8	2.9	103	27.8	29.2	115
1971	20	101	33	5.4	3.7	123	96	19	14	83.4	26.9	3.1	101	26.9	27.1	109
Central Texas																
1970	9	96	31	5.3	3.6	116	90	26	21	83.4	29.1	3.1	101	29.1	26.4	102
1971	7	108	37	6.1	4.5	117	93	19	15	84.4	27.2	2.9	104	27.2	27.2	108
Northwest Texas																
1970	27	109	37	5.9	4.3	104	81	39	30	82.4	27.2	3.3	98	27.2	26.6	106
1971	21	101	34	6.4	4.6	104	80	55	40	84.0	28.0	3.7	100	28.0	26.2	103
WEST																
Medium staple:																
Arizona																
1970	19	106	36	5.8	4.4	113	86	27	20	84.1	27.5	2.6	104	27.5	26.9	107
1971	12	105	35	6.1	4.3	119	93	24	18	84.1	27.5	2.9	104	27.5	26.8	106
California																
1970	43	124	45	5.6	4.3	115	89	22	17	83.1	27.3	2.9	101	27.3	26.8	107
1971	42	128	47	5.6	4.2	121	92	23	17	83.4	26.1	3.1	101	26.1	27.3	111
West Texas																
1970	8	114	41	6.4	4.8	98	76	36	28	84.1	26.9	2.9	104	26.9	26.8	108
1971	6	100	34	6.2	4.4	117	92	31	22	83.6	27.7	3.4	100	27.7	26.6	105

Table 2.--Continued

Area state and crop year	Spinning lots tested		Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential
	No.	Index	Grade	Staple	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Gray- ness	Yellow- ness	Con- posite	Pct.	No.
SOUTH CENTRAL (Continued)																
Medium staple: Tennessee																
1970	24	94		34.0	1.06	45	4.5	82	22	5.8	2.6	2	3	98	5.8	57
1971	15	91		34.1	1.06	45	4.4	79	21	6.6	3.1	2	3	99	6.3	59
Long staple: Mississippi																
1970	3	83		36.0	1.19	42	4.3	84	24	5.4	4.7	3	3	94	9.4	64
1971	3	85		37.0	1.22	43	4.5	83	24	5.9	5.3	2	3	97	9.6	70
SOUTHWEST																
Short staple: Central Texas																
1970	15	89		31.1	0.96	45	4.4	87	21	5.9	3.9	4	4	90	6.7	44
1971	18	88		30.3	0.97	45	5.0	81	20	6.7	3.6	4	4	90	6.5	37
Northwest Texas																
1970	42	95		30.3	0.93	46	4.2	86	21	6.7	3.1	3	4	96	6.0	44
1971	32	85		30.2	0.94	44	3.2	77	20	7.3	4.6	3	4	93	7.5	37
Oklahoma																
1970	6	96		30.0	0.91	45	4.8	85	20	6.8	2.8	2	4	97	5.8	37
1971	9	89		30.9	0.96	45	3.8	80	20	7.4	3.6	3	4	92	6.0	42
Medium staple: South Texas																
1970	27	91		33.9	1.09	46	4.5	85	23	6.0	3.2	3	3	94	6.0	67
1971	20	90		33.0	1.05	45	4.6	86	22	5.8	3.0	3	3	92	5.6	57
Central Texas																
1970	9	90		34.1	1.10	45	4.5	86	22	6.0	3.6	4	3	91	6.6	60
1971	7	93		34.3	1.12	44	4.5	85	22	6.6	3.0	3	3	96	5.4	62
Northwest Texas																
1970	27	92		32.6	1.02	46	3.9	89	23	6.5	3.2	2	4	96	6.5	58
1971	21	84		31.9	1.01	44	3.2	81	22	7.2	4.8	3	4	92	7.7	51
WEST																
Medium staple: Arizona																
1970	19	98		34.3	1.09	44	4.4	85	23	6.9	2.8	1	3	101	5.8	61
1971	12	97		34.8	1.11	44	4.3	82	23	7.1	2.6	2	3	100	5.3	59
California																
1970	43	97		35.3	1.10	46	4.2	98	26	5.5	2.6	1	3	100	5.5	73
1971	42	97		35.5	1.13	46	4.2	97	27	5.7	2.6	1	3	98	5.2	74
West Texas																
1970	8	96		35.4	1.10	44	3.8	86	23	6.8	2.7	2	3	99	5.8	70
1971	6	91		34.5	1.09	44	4.0	78	21	6.9	3.8	3	3	95	6.4	56

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1970 and 1971--Continued

Area state and crop year	Spinning lots tested		Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential						
	No.	Index	Grade	32d in.	In.	2.5% span		50/2.5 unif.	Pct.			Rdg.	Mpsi	G/tex			Pct.	Zero gage	1/8" gage	Pct.	No.	Gray- ness	Yellow- ness	Com- posite	Index	Pct.	No.
WEST (Continued) Long staple: Arizona 1970 1971 New Mexico 1970 1971 West Texas 1970 1971	2	97		37.0	1.20		46	46	4.0	90	27	5.6	2.7	0	3	104	6.8	78				
	3	98		36.0	1.15		43	43	3.7	93	25	5.3	2.5	1	4	103	8.8	76				
	12	97		37.2	1.18		45	45	3.7	93	27	5.3	3.4	1	3	102	8.1	75				
	12	98		37.2	1.17		45	45	3.6	91	26	5.7	2.6	1	3	102	9.1	78				
	6	93		36.5	1.16		44	44	3.5	91	26	5.1	4.1	2	3	100	9.1	75				
	6	98		36.8	1.16		44	44	3.7	89	26	6.0	2.7	1	3	102	9.1	80				

Table 2.--Continued

Area state and crop Year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn				Color 22s dyed yarn			
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
		<u>Lbs.</u>	<u>Lbs.</u> <u>50's</u>	<u>Pct.</u>	<u>Pct.</u> <u>50's</u>	<u>Index</u>	<u>Index</u> <u>50's</u>	<u>No.</u>	<u>No.</u> <u>50's</u>	<u>Rd</u>	<u>+b</u>	<u>Index</u>	<u>Rd</u>	<u>-b</u>	<u>Index</u>		
WEST (Continued) Long staple: Arizona	2	138	52	7.2	6.0	95	80	21	15	83.8	3.2	102	27.1	27.4	110		
	3	123	46	6.4	5.2	100	80	21	19	84.7	3.2	104	27.3	26.6	106		
New Mexico	12	135	51	6.8	5.7	88	71	41	32	84.0	3.0	103	26.8	26.8	108		
	12	129	49	6.5	5.4	93	73	30	28	84.4	3.2	103	26.6	27.0	109		
West Texas	6	131	49	6.6	5.7	80	63	54	46	83.4	3.0	101	27.0	26.7	107		
	6	125	47	6.8	5.5	100	73	30	25	84.8	3.0	104	26.4	27.2	110		

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1971

Staple group, area, grade and staple		Spinning lots tested	Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer lint	Color of raw stock			Picker & card waste	Spinning Poten-tial		
Name	Code	32d in.	No.	In.	Pct.	2.5% span	50/2.5 unif.	Rdg.	Mpsi	G/tex	Pct.	Gray-ness	Yellow-ness	Com-posite	Pct.	No.
SHORT STAPLE GROUP																
Southwest																
M Lt Sp	32	30	3	.95	45			4.0	80	20	6.5	2.7	2	4	98	38
SLM Lt Sp	42	30	21	.94	44			4.0	80	20	7.1	3.9	3	4	93	36
		31	8	.98	45			4.1	78	20	7.5	3.5	3	4	92	43
LM Lt Sp	52	29	3	.91	44			3.6	79	19	6.7	4.2	4	4	88	30
		30	13	.95	45			3.6	78	20	7.1	4.9	4	4	87	36
West																
LM Lt Sp	52	29	3	.87	45			2.9	83	20	6.4	6.5	3	4	92	32
		30	3	.85	45			2.9	84	20	6.4	7.2	3	4	93	33
MEDIUM STAPLE GROUP																
Southeast																
SLM	41	33	3	1.03	45			4.6	79	21	6.1	2.5	2	3	96	53
		34	11	1.07	45			4.5	78	21	6.5	2.6	2	3	97	59
		35	9	1.11	45			4.4	81	22	6.4	3.1	2	3	98	65
SLM Lt Sp	42	34	4	1.04	46			4.5	77	21	6.3	3.4	3	4	94	57
LM	51	33	4	1.05	45			4.4	80	21	5.9	3.1	3	3	93	58
		34	8	1.08	44			4.4	78	22	6.3	3.2	2	3	95	60
		35	14	1.09	45			4.3	79	22	6.3	3.7	3	2	94	64
LM Lt Sp	52	34	6	1.05	44			4.5	76	20	5.8	4.0	4	3	84	54
		35	4	1.12	44			4.2	79	22	5.8	4.5	4	3	85	64
South Central																
SLM	41	34	29	1.08	44			4.1	80	22	7.0	2.8	2	2	100	60
		35	59	1.10	45			4.4	80	22	6.7	2.7	2	3	99	63
		36	17	1.14	44			4.3	82	23	6.9	2.6	2	3	99	68
LM	51	34	8	1.07	45			4.1	79	21	6.6	4.1	3	2	95	57
		35	15	1.09	45			4.5	82	22	6.3	4.0	2	3	96	60
Southwest																
SLM	41	33	4	1.05	46			4.6	87	22	6.0	2.5	2	3	99	59
		34	8	1.09	44			4.4	86	22	6.0	2.9	2	3	98	62
SLM Lt Sp	42	32	4	1.03	44			3.8	84	22	6.5	3.9	3	3	93	52
		34	7	1.07	45			4.1	85	23	6.7	3.7	3	3	92	61
LM	51	34	3	1.08	45			4.0	83	23	7.2	4.7	3	3	91	61
LM Lt Sp	52	30	4	.96	44			2.8	80	21	7.5	5.4	4	4	90	42
		32	3	1.01	44			4.5	82	21	5.9	3.9	5	4	81	50
		33	3	1.06	43			3.5	82	22	6.6	5.1	4	3	90	54

Table 3.--Continued

Staple group, area, grade and staple	Spinning lots tested		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprctns	Color 22s bleached yarn				Color 22s dyed yarn			
			22s or 27 tex	lbs.	22s or 27 tex	Pct.	22s or 27 tex	Index	22s or 27 tex	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite	Index
Name	Code	32d in.	No.						No.	No.	Rd	tb	Index	Rd	-b	Index	
SHORT STAPLE GROUP																	
Southwest																	
LM Lt Sp	32	30	3	84	8s 288	6.1	6.9	117	8s 123	30	84.6	3.5	102	27.1	27.0	108	
SLM Lt Sp	42	30	21	85	288	6.0	6.9	112	120	36	84.0	3.6	100	27.4	26.6	106	
		31	8	89	304	6.5	7.7	120	125	27	83.2	4.0	97	26.7	26.9	108	
LM Lt Sp	52	29	3	83	287	5.9	6.8	117	123	34	83.7	3.7	99	28.2	26.1	102	
		30	13	85	290	6.3	7.4	108	118	46	84.8	3.7	102	28.0	26.3	103	
West																	
LM Lt Sp	52	29	3	88	297	6.2	6.8	110	110	57	85.1	3.9	102	28.2	25.9	101	
		30	3	87	293	5.8	6.7	107	113	73	85.9	4.1	103	27.9	25.8	101	
MEDIUM STAPLE GROUP																	
Southeast																	
SLM	41	33	3	89	50s 28	6.0	4.8	113	50s 87	13	84.0	3.1	103	27.0	27.5	110	
		34	11	96	33	6.5	5.1	114	85	16	84.7	2.9	105	26.1	27.7	112	
		35	9	107	38	6.5	5.2	103	81	26	84.5	2.9	104	26.3	27.6	112	
SLM Lt Sp	42	34	4	90	29	6.1	4.6	112	85	18	84.6	3.2	103	27.3	27.2	108	
LM	51	33	4	95	32	6.2	4.6	108	82	20	84.0	3.1	102	26.8	27.4	110	
		34	8	98	34	6.5	5.1	106	81	20	84.4	2.9	104	27.4	27.4	109	
		35	14	105	38	6.7	5.3	110	89	20	84.1	3.0	103	26.8	27.2	109	
LM Lt Sp	52	34	6	84	27	5.6	4.2	115	90	17	84.3	3.4	102	27.0	27.3	109	
		35	4	98	34	6.4	4.9	108	88	26	84.2	3.0	103	27.1	27.4	109	
South Central																	
SLM	41	34	29	102	35	6.6	4.9	107	86	23	84.5	2.9	104	26.8	27.3	110	
		35	59	105	37	6.6	5.1	114	89	18	84.6	2.8	105	26.3	27.7	112	
		36	17	111	39	6.7	5.2	114	91	20	84.4	2.7	105	26.3	27.6	112	
LM	51	34	8	94	31	6.2	4.4	120	92	25	83.9	3.0	103	26.8	27.3	110	
		35	15	100	34	6.2	4.7	107	86	22	84.1	2.9	104	26.8	27.4	110	
Southwest																	
SLM	41	33	4	101	32	5.4	3.7	120	95	17	83.9	3.0	103	26.4	28.0	113	
		34	8	106	36	5.9	4.4	118	94	19	84.2	3.0	103	26.7	27.3	110	
SLM Lt Sp	42	32	4	100	32	6.2	4.3	110	85	44	83.8	3.4	100	27.6	26.6	105	
		34	7	108	37	5.9	4.2	119	90	24	83.6	3.4	101	27.0	27.1	109	
LM	51	34	3	110	38	6.2	4.4	117	90	32	83.1	3.4	99	28.0	26.6	104	
LM Lt Sp	52	30	4	98	32	6.6	4.9	98	72	67	84.2	3.6	101	28.5	26.0	101	
		32	3	92	28	5.0	3.3	120	97	20	82.4	3.5	97	27.9	25.7	101	
		33	3	102	34	6.3	4.4	110	83	45	83.4	3.5	100	28.2	25.9	102	

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1971--(Continued)

Name	Code	32d in.	Spinning lots tested	Fiber length		Micro-naire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray-ness	Yellow-ness	Com-posite		
			No.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
MEDIUM STAPLE GROUP (Cont'd)															
West M	31	34	4	1.06	44	4.4	89	23	5.6	2.6	1	2	103	5.6	52
	35	35	7	1.11	45	4.4	94	26	6.1	2.1	1	3	102	4.6	67
	36	36	14	1.15	46	4.2	97	28	5.7	2.2	1	3	95	4.7	78
SLM +	40	36	3	1.14	46	4.3	98	27	5.5	2.4	2	3	100	4.6	80
SLM	41	34	4	1.03	43	4.4	87	22	6.0	2.7	2	3	99	5.6	48
	35	35	8	1.10	45	4.2	86	24	6.7	2.9	2	3	98	5.5	65
	36	36	12	1.15	46	4.0	100	27	5.9	3.1	2	3	99	5.7	81
LONG STAPLE GROUP															
Southeast LM	51	35	3	1.14	44	4.4	78	22	6.3	4.0	3	3	90	9.9	64
	36	36	3	1.17	42	4.1	83	24	6.0	4.7	3	3	95	10.1	66
LM Lt Sp	52	36	3	1.15	42	4.2	79	21	6.2	4.5	4	3	85	9.7	65
West M	31	37	6	1.18	45	3.9	90	27	5.9	2.6	1	3	102	8.8	81
	38	38	3	1.19	44	3.7	93	27	5.5	2.1	1	3	103	7.5	80
	41	36	3	1.11	42	2.9	90	23	5.8	2.9	1	3	102	10.3	75

Table 3.--Continued

Staple group, area, grade and staple		Spinning lots tested		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfc'tns		Color 22s bleached yarn			Color 22s dyed yarn				
Name	Code	32d in.	No.	Lbs.	22s or 27 tex	Pct.	22s or 27 tex	Pct.	22s or 27 tex	Second number	22s or 27 tex	Index	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite	Index
MEDIUM STAPLE GROUP (Cont'd)																			
West M	31	34	4	102	31	5.2	120	3.5	92	23	18	84.0	27.6	2.8	104	27.6	26.9	107	
		35	7	119	43	5.8	121	4.3	94	19	15	84.4	26.3	3.1	104	26.3	27.4	111	
		36	14	132	50	5.8	123	4.3	94	21	15	83.7	26.0	3.1	102	26.0	27.4	111	
SIM +	40	36	3	135	51	5.7	120	4.4	97	18	13	83.3	25.1	3.1	101	25.1	27.8	115	
SIM	41	34	4	99	31	5.1	120	3.4	95	25	18	82.8	27.9	3.0	100	27.9	26.4	104	
		35	8	115	41	6.1	120	4.4	91	26	18	83.9	26.9	3.1	102	26.9	27.0	108	
		36	12	134	51	5.6	118	4.3	91	26	19	82.8	25.7	3.2	99	25.7	27.4	112	
LONG STAPLE GROUP																			
Southeast LM	51	35	3	102	36	6.4	113	5.0	83	23	20	85.0	26.7	3.0	105	26.7	27.2	109	
		36	3	107	38	6.5	110	5.3	87	23	17	84.6	26.5	3.0	104	26.5	27.0	109	
LM Lt Sp	52	36	3	97	34	6.1	107	4.7	80	25	19	83.9	26.8	3.3	101	26.8	27.2	109	
West M	31	37	6	127	48	6.6	102	5.5	77	25	20	84.4	26.3	3.0	104	26.3	27.4	111	
		38	3	135	52	6.5	103	5.6	83	17	16	85.0	26.3	3.1	104	26.3	27.3	111	
SIM	41	36	3	121	45	6.5	83	5.1	60	47	45	84.4	27.3	3.4	102	27.3	26.1	104	

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1971

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning & Potential									
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	Mpsi			G/tex	Pct.	No.			Gray- ness	Yellow- ness	Com- posite	Index	Pct.	No.			
						In.			Pct.	Rdg.				Pct.	No.							Index	Pct.	No.
SHORT STAPLE																								
<u>Anton 90</u> Central Texas	3	92		30.3	0.95		46	5.2	84	21	6.7	2.7	3	4	94	5.7	40							
<u>Lankart 57</u> Oklahoma	6	89		31.3	0.98		45	4.2	78	20	7.6	3.2	4		92	5.4	43							
<u>Lankart IX-571</u> Central Texas	3	83		31.3	1.01		45	4.5	80	21	6.6	5.1	4	4	87	6.8	43							
Northwest Texas	2	80		33.0	1.06		44	3.9	75	20	7.4	5.3	3	4	93	7.2	44							
<u>Lankart 611</u> Northwest Texas	2	84		30.0	0.97		44	3.6	74	20	8.6	4.1	4		90	7.8	38							
MEDIUM STAPLE																								
<u>Acala SJ-1</u> California	30	98		35.9	1.15		46	4.1	99	28	5.7	2.5	1	3	97	5.0	79							
<u>Acala 4-42</u> California	6	96		35.3	1.11		46	4.0	97	27	6.1	3.0	1	3	100	5.3	76							
<u>Auburn M</u> Missouri	3	94		35.3	1.10		44	3.9	79	22	6.4	2.3	2	3	100	5.3	65							
<u>Brycot #4</u> Arkansas	3	96		35.3	1.13		44	4.5	88	22	5.5	2.6	2	3	99	5.6	63							
<u>Coker 201</u> Alabama	3	94		33.7	1.05		44	4.4	76	21	6.5	2.4	2	3	97	5.7	56							
Georgia	3	91		33.7	1.07		45	4.6	78	20	6.1	3.1	3	3	93	6.5	60							
North Carolina	2	80		34.0	1.05		44	4.5	74	20	5.8	4.4	5	3	82	8.2	54							
South Carolina	6	83		34.8	1.10		44	4.3	77	21	6.1	4.6	4	2	89	7.9	60							
<u>Coker 417</u> Alabama	4	92		35.0	1.13		44	4.3	83	23	5.8	2.7	2	3	98	5.8	68							
Georgia	3	85		34.7	1.11		44	4.0	80	22	5.7	3.1	2	3	95	6.8	67							
South Carolina	4	81		35.8	1.14		45	4.0	79	22	6.1	5.0	4	2	90	7.5	71							
<u>Coker 4104</u> Northwest Texas	3	82		33.3	1.07		43	3.0	80	22	7.4	5.8	3	3	95	8.7	55							
<u>Deltapine 16</u> Alabama	3	91		34.7	1.10		44	4.2	77	21	7.9	3.0	2	3	97	5.8	61							
Arkansas	6	92		35.3	1.13		44	4.0	81	23	7.5	3.0	2	2	98	5.7	69							
Louisiana	9	94		34.6	1.11		44	4.1	80	22	7.8	2.6	2	2	99	5.3	65							
Mississippi	20	93		35.0	1.12		43	4.3	79	23	7.2	2.5	1	2	100	5.8	63							
Central Texas	4	92		34.0	1.11		43	4.1	82	22	7.1	3.3	2	3	96	5.8	64							
Arizona	6	98		35.2	1.12		44	4.2	81	22	7.4	2.4	2	3	101	5.0	63							
California	3	96		34.0	1.04		44	4.5	89	23	5.7	2.5	1	2	102	5.5	50							
West Texas	3	88		34.3	1.10		43	4.0	79	21	6.9	5.1	3	3	92	7.5	56							

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn			
		Lbs.		Pct.	22s or 27 tex		Index		No.		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
		Lbs.	Lbs.	Pct.	22s or 27 tex	Second number	Index	Index	22s or 27 tex	Second number	Rd	+b	Index	Rd	-b	Index
SHORT STAPLE																
<u>Anton 92</u> Central Texas	3	89	<u>8s</u> 300	5.7	<u>8s</u> 6.9	127	<u>8s</u> 130	18	<u>8s</u> 32	83.2	3.1	101	26.6	27.9	112	
<u>Lankart 57</u> Oklahoma	6	89	305	6.6	7.6	122	125	23	36	82.8	4.3	95	26.9	26.6	107	
<u>Lankart IX-571</u> Central Texas	3	93	311	6.0	7.0	120	123	32	45	84.3	3.4	102	27.0	27.3	109	
Northwest Texas	2	88	302	6.8	7.6	105	120	49	78	84.1	4.2	98	27.4	26.4	105	
<u>Lankart 611</u> Northwest Texas	2	84	288	7.4	8.4	95	115	53	92	85.1	3.4	104	27.0	27.0	108	
MEDIUM STAPLE																
<u>Acala SJ-1</u> California	30	133	<u>50s</u> 50	5.7	<u>50s</u> 4.3	121	<u>50s</u> 93	23	<u>50s</u> 16	83.4	3.2	101	25.8	27.4	112	
<u>Acala 4-42</u> California	6	133	50	5.9	4.4	120	90	26	18	83.4	3.0	102	25.4	27.6	114	
<u>Auburn M</u> Missouri	3	105	37	7.0	5.5	117	90	18	14	84.3	2.9	104	26.2	27.5	112	
<u>Brycot #4</u> Arkansas	3	108	37	6.0	4.2	120	93	20	13	84.3	2.9	104	26.9	27.4	110	
<u>Coker 201</u> Alabama	3	89	29	6.3	4.9	117	87	14	12	84.9	2.8	106	25.8	27.9	114	
Georgia	3	95	32	6.2	4.9	117	90	19	17	83.6	3.0	102	25.4	27.9	115	
North Carolina	2	81	26	5.6	4.2	110	90	19	14	83.4	3.8	98	26.4	27.5	112	
South Carolina	6	98	34	6.5	5.1	110	88	22	17	84.8	3.0	105	26.6	27.4	110	
<u>Coker 417</u> Alabama	4	111	43	6.5	5.2	102	80	28	22	83.9	2.8	103	27.0	27.2	109	
Georgia	3	111	41	6.8	5.4	100	80	22	20	84.5	3.1	104	27.7	26.7	106	
South Carolina	4	110	41	6.7	5.4	100	80	27	24	84.3	2.9	104	27.6	26.8	106	
<u>Coker 4104</u> Northwest Texas	3	106	36	6.8	4.7	103	80	53	36	83.7	3.6	100	28.5	25.8	100	
<u>Deltapine 16</u> Alabama	3	93	31	6.8	5.2	97	70	29	22	84.8	3.0	105	26.0	27.5	112	
Arkansas	6	114	40	6.7	5.0	120	93	25	18	84.5	2.8	105	26.1	27.5	112	
Louisiana	9	108	38	6.7	4.8	112	84	30	24	84.7	2.8	105	26.8	27.2	109	
Mississippi	20	106	37	7.0	5.5	104	82	16	14	84.6	2.7	105	26.5	27.6	111	
Central Texas	4	107	37	6.5	4.9	112	88	23	19	84.9	3.0	105	26.7	27.5	110	
Arizona	6	108	37	6.3	4.7	120	95	24	17	84.5	2.8	105	27.0	27.0	108	
California	3	101	31	5.2	3.4	120	90	26	19	84.1	2.6	105	26.2	26.6	104	
West Texas	3	100	34	6.1	4.4	113	87	40	27	83.7	3.3	101	28.4	26.2	102	

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1971--Continued

Processing group, variety, and state	Spinning lots tested		Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock		Picker & card waste	Spinning Potential
	No.	Index	32d in.	In.	Pct.	2.5% span	50/2.5 unif.	Mosi	G/tex	Pct.	Pct.	Gray- ness	Yellow- ness	Index	No.
MEDIUM STAPLE (Continued)															
<u>Deltapine 45A</u>	3	91	34.7	1.07	45			81	23	6.5	4.4	2	3	98	60
Mississippi	3	94	34.7	1.07	46			78	23	6.7	2.1	2	3	101	59
<u>Dixie King II</u>	3	88	33.7	1.05	44			80	21	5.7	2.6	3	3	95	58
Alabama	4	84	34.0	1.02	46			78	20	5.7	3.5	4	3	89	56
Georgia	3	85	35.0	1.06	45			86	22	5.0	4.2	3	3	95	56
<u>Lockett BXL</u>	3	88	34.0	1.07	46			86	23	6.7	4.1	3	3	91	61
Northwest Texas															
<u>Lockett 4789A</u>	6	88	32.5	1.03	44			82	22	7.2	4.3	3	4	93	54
Northwest Texas															
<u>McNair 511</u>	3	91	35.0	1.06	46			81	22	6.4	3.9	3	2	95	61
North Carolina															
<u>McNair 1032</u>	4	86	34.8	1.06	46			84	23	6.4	4.0	3	2	94	64
North Carolina															
<u>Stoneville 7A</u>	3	93	34.7	1.10	44			86	21	5.8	3.4	2	3	98	59
Arkansas	3	94	35.0	1.12	44			85	23	5.5	2.5	2	3	99	58
Mississippi															
<u>Stoneville 213</u>	3	94	34.0	1.07	45			78	20	6.6	2.4	3	4	96	60
Alabama	18	93	34.9	1.10	45			82	22	6.6	3.3	2	3	97	63
Arkansas	6	94	34.7	1.08	46			83	22	6.6	3.4	2	3	96	58
Louisiana	15	90	35.0	1.09	44			81	22	6.2	3.1	2	3	99	59
Mississippi	3	96	34.0	1.05	43			90	22	5.1	2.8	1	3	101	48
California	3	94	34.7	1.07	44			77	21	7.0	2.5	2	3	97	57
West Texas															
<u>TH-149</u>	2	82	35.0	1.10	45			80	23	5.4	4.1	4	2	84	68
North Carolina															
LONG STAPLE															
<u>Acala 1517C</u>	3	99	37.3	1.19	46			88	27	6.1	3.2	1	3	101	83
West Texas															
<u>Acala 1517V</u>	6	98	37.2	1.17	45			90	26	5.8	2.8	1	3	102	78
New Mexico															
<u>Acala 1517-70</u>	3	98	36.0	1.15	43			93	25	5.3	2.5	1	4	103	76
Arizona	3	96	37.3	1.16	43			93	25	5.6	2.4	1	3	101	71
New Mexico															

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn				
		22s or 27 tex	Lbs.	22s or 27 tex	Pct.	Index	22s or 27 tex	Second number	22s on 27 tex	No.	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
MEDIUM STAPLE (Continued)																	
<u>Deltapine 45A</u> Mississippi Missouri	3	103	50s	6.8	5.3	100	50s	80	21	50s	84.6	2.9	105	26.4	27.5	112	
	3	102	36	6.9	5.3	110	87	19	19	85.0	3.1	105	26.3	27.6	112		
<u>Dixie King II</u> Alabama Georgia Mississippi	3	94	31	6.3	4.6	113	80	18	14	84.6	2.9	104	27.0	27.3	109		
	4	88	28	5.8	4.4	122	95	14	10	84.6	3.4	103	27.6	27.0	107		
	3	92	30	5.5	4.3	103	83	19	16	83.9	2.9	103	27.3	27.0	107		
<u>Lockett BXL</u> Northwest Texas	3	110	39	6.1	4.4	117	90	26	18	83.3	3.5	99	27.6	26.9	107		
<u>Lockett 4789A</u> Northwest Texas	6	104	35	6.6	4.7	103	78	57	41	83.8	3.8	99	27.7	26.4	104		
<u>McNair 511</u> North Carolina	3	105	37	6.4	5.2	103	83	22	20	84.4	2.8	105	26.7	27.6	111		
<u>McNair 1032</u> North Carolina	4	110	39	6.8	5.4	112	85	22	17	83.9	2.8	103	26.6	27.4	110		
<u>Stoneville 7A</u> Arkansas Mississippi	3	103	34	5.8	4.1	113	90	27	21	84.7	2.7	106	26.8	27.2	109		
	3	100	34	5.9	4.5	100	80	24	18	83.6	2.5	104	26.5	27.9	113		
<u>Stoneville 213</u> Alabama Arkansas	3	93	31	6.4	5.0	103	87	21	17	84.5	3.2	103	26.9	27.3	109		
	18	109	38	6.3	4.7	118	93	24	17	84.6	3.0	104	26.2	27.5	111		
<u>Louisiana</u>	6	105	36	6.1	4.3	120	95	26	17	84.0	3.0	103	26.8	27.1	109		
<u>Mississippi</u>	15	97	34	6.4	5.0	105	82	20	16	84.3	2.8	104	26.7	27.7	111		
<u>California</u>	3	102	31	4.9	3.3	120	97	22	16	83.3	3.0	101	27.8	26.3	103		
<u>West Texas</u>	3	101	34	6.2	4.5	120	97	23	17	83.5	3.6	99	27.0	27.0	108		
<u>TH-1149</u> North Carolina	2	100	35	6.0	4.8	115	95	20	12	82.2	3.2	98	27.0	27.0	108		
LONG STAPLE																	
<u>Acala 1517C</u> West Texas	3	126	48	6.7	5.5	100	70	35	27	84.4	3.0	104	26.4	27.4	111		
<u>Acala 1517V</u> New Mexico	6	130	50	6.7	5.5	97	77	30	26	84.4	3.3	102	26.6	26.9	108		
<u>Acala 1517-70</u> Arizona New Mexico	3	123	46	6.4	5.2	100	80	21	19	84.7	3.2	104	27.3	26.6	106		
	3	125	47	6.0	4.9	87	70	34	33	84.2	3.2	103	27.0	26.6	107		

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1971--Continued

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer non- lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray- ness	Yellow- ness	Com- posite		
LONG STAPLE (Continued)															
Coker 310															
Alabama	4	84	35.8	1.16	42	4.5	81	23	5.8	4.4	3	3	93	10.0	64
Georgia	7	87	34.9	1.13	44	4.5	78	22	6.4	3.7	3	3	92	9.5	64
North Carolina	1	80	36.0	1.13	41	4.1	76	19	6.5	3.0	4	3	85	9.6	59
South Carolina	4	86	35.8	1.16	42	3.8	79	22	6.5	5.1	3	3	92	10.0	68
Mississippi	3	85	37.0	1.22	43	4.5	83	24	5.9	5.3	2	3	97	9.6	70
EXTRA LONG STAPLE															
Del Cerro															
Arizona	3	100	40.0	1.42	30	4.0	108	31	5.4	2.5	1	3	102	8.5	
Pima S-2															
New Mexico	4	American Pima 3	44.0	1.41	31	3.9	100	32	7.7	2.5	4	5	91	8.1	
Pima S-3															
West Texas	4	4	44.0	1.42	32	3.6	97	32	7.5	3.5	5	6	84	8.9	
Pima S-4															
Arizona	3	4	44.0	1.49	30	3.9	103	34	6.9	3.4	3	5	92	9.6	
West Texas	3	3	44.0	1.40	33	3.7	97	32	7.1	2.3	5	6	86	8.6	

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprftns		Color 22s bleached yarn				Color 22s dyed yarn			
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite	
No.		Lbs.	Pct.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index		
LONG STAPLE (Continued)																	
Coker 310																	
Alabama	4	103	37	6.1	4.8	110	82	22	16	84.1	3.0	103	26.7	27.5	110		
Georgia	7	102	36	6.4	5.2	110	87	21	19	84.5	3.2	103	26.8	27.0	108		
North Carolina	1	88	29	6.1	4.5	120	90	18	16	83.3	4.0	97	25.9	27.7	113		
South Carolina	4	106	38	6.7	5.4	102	82	25	21	84.5	2.8	104	27.4	26.5	106		
Mississippi	3	113	42	6.5	5.4	107	83	20	18	84.3	2.8	104	26.7	27.8	112		
EXTRA LONG STAPLE																	
Combed Yarns																	
Del Cerro	3	50s 67	80s 38	5.2	80s 4.6	50s 100	80s 93	50s 8	80s 6	83.5	2.6	103	26.4	28.7	116		
Arizona																	
Pima S-2	4	65	36	5.8	5.2	115	115	2	2	83.7	3.8	96	27.2	27.1	108		
New Mexico																	
Pima S-3	4	65	36	6.0	5.2	108	108	4	3	82.1	4.2	94	27.1	27.1	108		
West Texas																	
Pima S-4	3	71	39	5.8	5.2	110	107	4	3	83.3	3.6	99	27.8	26.9	106		
Arizona	3	63	35	5.7	5.1	113	110	4	3	83.3	4.1	97	27.7	27.2	107		
West Texas																	

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name		32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
SOUTH TEXAS													
MATHIS													
LANKART 611													
M	31	31	0.92	46	4.7	79	20	7.8	2.2	2	4	99	5.2
LM LT SP 52		30	0.95	45	4.2	79	20	6.8	3.2	6	3	80	6.2
LM LT SP 52		30	0.97	45	4.4	79	19	6.3	3.4	6	4	80	5.8
CENTRAL TEXAS													
COMMERCE													
LANKART 57													
M	31	30	0.96	45	5.4	83	20	6.9	2.4	2	4	99	5.7
SLM LT SP 42		30	0.98	44	5.3	79	19	6.6	3.3	4	4	91	6.0
LM LT SP 52		29	0.98	45	5.0	79	19	6.1	2.8	5	4	83	6.1
ITASCA													
LANKART LX-571													
SLM LT SP 42		30	0.97	46	5.1	82	20	7.0	4.6	3	4	95	6.9
LM LT SP 52		32	1.03	45	4.5	77	21	6.4	6.1	5	4	82	5.9
LM LT SP 52		32	1.03	44	3.9	81	21	6.4	4.6	4	4	85	7.6
LOCKHART													
ANTON 99													
100 PERCENT*													
M LT SP 32		30	0.97	46	5.3	88	22	6.1	2.0	2	4	98	5.3
SLM LT SP 42		30	0.92	47	5.0	82	19	7.4	3.3	4	4	91	6.6
SLM LT SP 42		31	0.97	46	5.4	81	22	6.7	2.8	3	4	92	5.3
TEMPLE													
LANKART 57													
95 PERCENT													
SLM LT SP 42		30	0.91	44	4.8	84	19	6.2	3.2	3	4	92	6.6
SLM LT SP 42		30	0.90	46	5.2	77	19	7.4	2.9	3	4	93	7.6
SLM LT SP 42		30	0.95	45	5.2	79	20	7.4	3.9	4	4	87	6.0
TERRELL													
LANKART 57													
99 PERCENT													
SLM LT SP 42		31	0.99	46	4.7	78	20	6.7	4.3	3	4	93	6.5
LM LT SP 52		30	0.98	44	5.0	73	19	6.6	4.0	4	4	85	6.8
LM LT SP 52		30	0.98	44	5.1	78	18	7.4	5.7	6	4	80	8.7
WACO													
LANKART LX-571													
97 PERCENT													
SLM LT SP 42		30	0.97	44	5.3	84	20	6.2	3.4	4	4	89	6.7
SLM LT SP 42		30	0.93	46	5.4	81	20	6.8	2.9	3	4	95	6.2
SLM LT SP 42		30	0.96	46	5.3	85	20	6.4	3.4	4	4	98	6.6

* 100 percent selected for tests, less than 100 percent in the area
 1/ reduced from 42 because of bark

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Color - 22s gray yarn		Color-22s blechd.yarn		Color - 22s dyed yarn		
Chronological sampling and Classification			8s or 7 1/4 tex	22s or 27 tex	8s or 7 1/4 tex	22s or 27 tex	8s or 7 1/4 tex	22s or 27 tex	8s or 7 1/4 tex	22s or 27 tex	Spin-ning Potent-ial	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
Grade	Code	32d in.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	Index	+b	Index	Rd	-b	Index
SOUTH WEST																	
SOUTH TEXAS																	
MATHIS																	
LANKART 611																	
68 PERCENT																	
M	31	31	307	89	7.7	6.1	120	120	34	25	42	68.9	11.1	94	84.1	3.2	102
LM LT SP	52	30	294	86	7.2	6.1	130	120	43	28	43	59.9	10.3	76	83.7	3.5	100
LM LT SP	52	30	291	88	7.0	5.6	130	120	34	21	43	58.8	10.2	74	83.6	3.6	100
CENTRAL TEXAS																	
COMMERCE																	
LANKART 57																	
90 PERCENT																	
M	31	30	298	88	6.9	5.9	130	120	28	18	37	69.7	11.8	98	83.8	2.7	104
SLM LT SP	42	30	282	83	6.8	5.7	120	120	50	29	34	65.1	11.7	88	83.6	3.0	102
LM LT SP	52	29	280	80	6.5	5.5	130	120	43	29	34	61.9	10.8	80	85.0	2.9	106
ITASCA																	
LANKART LX-571																	
100 PERCENT																	
SLM LT SP	42	30	302	91	6.9	5.9	130	130	31	22	42	68.2	11.9	96	84.4	3.0	104
LM LT SP	52	32	318	93	7.1	6.0	120	110	50	35	44	63.6	11.6	85	84.1	3.6	101
1/LM LT SP	52	32	314	94	7.0	6.0	120	120	55	38	43	63.2	11.5	84	84.4	3.7	101
LOCKHART																	
ANTON 99																	
100 PERCENT*																	
M LT SP	32	30	308	92	6.6	5.7	130	120	26	15	40	69.1	11.5	96	83.1	3.0	101
SLM LT SP	42	30	275	83	6.6	5.5	130	130	37	18	35	66.7	11.7	91	82.7	3.0	100
SLM LT SP	42	31	316	93	7.6	6.0	130	130	33	21	44	66.5	11.3	89	83.8	3.2	102
TEMPLE																	
LANKART 57																	
95 PERCENT																	
SLM LT SP	42	30	263	73	5.9	4.7	120	120	35	22	29	66.3	11.9	91	83.8	3.1	102
SLM LT SP	42	30	260	78	6.2	5.2	120	120	34	24	27	66.6	12.3	93	84.1	3.1	103
SLM LT SP	42	30	289	86	7.1	5.9	130	120	40	25	38	64.4	11.9	87	85.2	3.3	104
TERRELL																	
LANKART 57																	
99 PERCENT																	
SLM LT SP	42	31	297	89	7.2	6.2	120	120	42	27	42	66.4	12.0	92	83.7	3.1	102
LM LT SP	52	30	280	82	7.0	6.0	120	120	46	33	41	64.6	11.5	86	86.1	2.8	109
1/LM LT SP	52	30	257	74	6.3	5.0	120	110	46	35	33	61.8	10.6	79	83.8	3.5	100
WAGO																	
LANKART LX-571																	
97 PERCENT																	
SLM LT SP	42	30	258	75	5.9	4.6	130	120	41	28	30	65.0	12.1	89	83.7	3.3	101
SLM LT SP	42	30	265	78	5.8	4.9	130	120	32	21	29	67.9	12.0	95	83.9	3.1	102
SLM LT SP	42	30	284	83	6.4	5.4	130	110	39	30	36	64.4	11.7	86	84.8	3.4	103

* 100 percent selected for tests, less than 100 percent in the area

/reduced from #2 because of bark

* 100 percent selected for tests, less than 100 percent in the area
 1/reduced from 42 because of bark

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
NORTHWEST TEXAS													
ANSON													
LANKART 611													
100 PERCENT													
SLM LT SP 42	30	0.97	43	3.5	73	20	8.6	2.7	4.2	3	4	94	6.9
1/LM LT SP 52	30	0.97	44	3.7	76	19	8.6	2.2	4.0	4	4	86	8.8
BIG SPRING													
WESTERN STORMPROOF													
95 PERCENT													
M LT SP 32	30	0.96	43	3.0	75	19	6.6	1.8	3.2	2	4	97	6.9
SLM LT SP 42	30	0.92	44	3.0	74	20	7.0	5.2	6.8	3	4	95	7.9
SLM LT SP 42	30	0.97	44	2.9	80	20	6.7	2.7	4.1	3	4	93	7.1
COLEMAN													
LANKART 57													
90 PERCENT													
1/LM LT SP 52	30	1.00	44	4.3	75	20	7.4	3.1	4.8	4	4	90	8.5
COTTON CENTER													
STRIPPER 31													
85 PERCENT													
SLM LT SP 42	30	0.93	43	3.3	78	20	7.1	2.1	3.9	3	3	95	6.4
2/LM LT SP 51	30	0.95	43	3.2	81	20	6.8	2.3	3.8	2	3	100	6.6
1/LM LT SP 52	30	0.89	43	2.8	79	22	7.4	3.4	4.8	3	3	94	8.9
HAMLIN													
LANKART 57													
70 PERCENT													
SLM LT SP 42	31	0.98	43	2.8	71	20	8.4	2.8	4.4	3	4	92	7.3
SLM LT SP 42	30	0.97	44	3.6	73	18	8.6	2.1	3.3	4	4	91	6.1
1/LM LT SP 52	30	0.98	43	3.0	73	19	8.3	2.8	4.8	4	4	89	7.7
LAMESA													
BLIGHTMASTER A-5													
75 PERCENT													
M LT SP 32	30	0.91	45	3.6	76	20	6.7	1.4	3.0	2	3	100	5.4
3/SLM LT SP 42	30	0.90	45	2.9	76	20	7.6	1.6	3.1	3	5	96	6.8
3/SLM LT SP 42	29	0.88	44	3.1	77	19	7.6	1.6	3.4	3	4	95	6.6
LOCKNEY													
STRIPPER 31													
75 PERCENT													
3/SLM LT SP 42	30	0.95	44	2.9	78	21	7.1	2.5	4.0	2	4	98	6.8
3/SLM LT SP 42	30	0.98	42	2.9	79	21	6.9	3.2	4.7	2	4	97	7.6
3/SLM LT SP 42	30	0.91	42	2.7	79	19	7.0	2.5	4.3	3	4	94	6.5
MULESHOE													
PAYMASTER 202													
80 PERCENT													
1/LM LT SP 52	30	0.92	45	2.8	81	22	7.2	3.3	5.0	3	4	92	8.7
1/LM LT SP 52	30	0.95	47	2.8	82	22	6.6	2.9	4.7	3	4	91	8.6
1/LM LT SP 52	30	0.87	46	3.1	82	22	7.0	3.8	5.5	4	4	89	8.4
1/reduced from 42 because of bark													
2/reduced from 41 because of bark													
3/reduced from 32 because of bark													

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area Chronological sampling and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn			
			8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	Pct.	Pct.	Index	Index		No.	No.	8s or 74 tex	22s or 27 tex	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite
Name	Code	32d in.	Lbs.								No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index	
SOUTH WEST																					
NORTHWEST TEXAS																					
ANSON																					
LANKART 611																					
100 PERCENT																					
SLM LT SP	42 30	294	86	8.2	7.2	120	120	64	37	42	66.3	11.2	89	85.4	3.7	103	26.8	26.9	104		
1/LM LT SP	52 30	281	82	8.7	7.6	110	70	120	69	33	66.5	11.0	88	84.8	3.2	104	27.3	27.0	107		
BIG SPRING																					
WESTERN STORMPROOF																					
95 PERCENT																					
M LT SP	32 30	275	79	6.5	5.9	120	110	65	39	39	68.1	11.2	93	85.1	3.8	102	27.2	26.3	105		
SLM LT SP	42 30	290	82	7.1	6.4	120	120	61	36	41	66.9	11.4	91	84.0	3.7	100	26.9	26.3	105		
SLM LT SP	42 30	308	87	7.6	6.6	110	110	70	44	39	65.9	11.2	88	83.4	3.6	99	27.6	25.8	102		
COLEMAN																					
LANKART 57																					
1/LM LT SP	52 30	280	81	7.4	6.4	120	110	53	33	38	65.6	11.2	87	85.0	3.8	102	27.1	25.3	103		
COTTON CENTER																					
STRIPPER 31																					
85 PERCENT																					
SLM LT SP	42 30	297	88	7.0	6.2	120	100	48	36	39	68.4	10.9	92	81.1	4.4	90	27.6	26.3	104		
2/LM	51 30	275	81	6.7	5.9	120	110	78	41	41	70.4	10.7	96	84.6	4.0	100	28.1	26.1	102		
1/LM LT SP	52 30	298	88	7.2	6.5	110	110	106	74	36	67.7	11.2	92	84.9	3.9	101	28.3	25.6	100		
HAMLIN																					
LANKART 57																					
70 PERCENT																					
SLM LT SP	42 31	295	85	8.3	6.8	120	110	54	40	43	65.7	11.0	87	84.7	4.3	99	26.6	26.8	104		
SLM LT SP	42 30	282	87	8.3	7.3	120	110	59	35	40	65.3	11.1	88	85.0	3.7	102	26.9	26.7	107		
1/LM LT SP	52 30	297	85	9.1	7.6	110	100	87	52	36	66.9	11.4	91	85.1	3.7	103	27.1	26.6	106		
LAMESA																					
8LIGHTMASTER A-5																					
75 PERCENT																					
M LT SP	32 30	280	81	7.7	6.6	120	120	50	36	35	67.7	11.4	93	85.5	3.6	104	27.8	26.3	104		
3/SLM LT SP	42 30	284	83	7.8	7.1	120	120	58	39	35	67.1	11.8	93	85.2	3.6	103	27.5	26.4	105		
3/SLM LT SP	42 29	302	89	8.0	7.2	120	110	69	39	35	67.2	11.5	92	84.8	3.8	102	27.0	26.7	107		
LOCKNEY																					
STRIPPER 31																					
75 PERCENT																					
3/SLM LT SP	42 30	311	91	7.0	6.3	110	100	74	47	39	68.1	11.8	95	83.1	3.7	98	27.2	26.3	105		
3/SLM LT SP	42 30	287	85	7.2	6.2	110	100	97	60	37	68.2	11.2	93	85.0	3.9	102	27.9	25.8	101		
3/SLM LT SP	42 30	294	85	7.3	6.3	100	70	146	97	33	66.5	11.7	91	84.3	4.2	99	29.3	24.7	94		
MULESHOE																					
PAYMASTER 202																					
80 PERCENT																					
1/LM LT SP	52 30	303	88	7.4	6.2	110	100	86	53	33	66.4	12.1	92	83.3	4.4	96	27.1	25.9	103		
1/LM LT SP	52 30	296	85	7.2	6.1	120	110	94	48	35	65.3	12.1	89	86.3	4.2	103	28.2	25.7	100		
1/LM LT SP	52 30	308	90	7.2	6.6	120	110	60	43	32	66.6	11.8	92	85.0	4.1	101	23.2	25.7	100		
1/reduced from 42 because of bark																					
2/reduced from 41 because of bark																					
3/reduced from 32 because of bark																					

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	32d in.	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	
OUTH WEST														
NORTHWEST TEXAS														
PADUCAH														
LANKART 57														
SLM LT SP 42	31	1.01	44	3.7	80	21	7.2	2.6	4.0	4	4	90	6.3	
SLM SP 43	31	0.99	45	3.2	76	20	8.5	2.2	3.4	5	5	85	6.5	
SLM SP 43	31	0.95	45	3.1	77	19	8.2	2.1	3.9	4	4	83	5.9	
PLAINVIEW														
PAYMASTER 18														
80 PERCENT														
1/LM LT SP 52	31	0.94	45	3.2	77	20	7.0	5.8	7.9	3	4	92	9.7	
1/LM LT SP 52	30	0.95	45	3.0	76	19	6.6	4.8	6.4	3	3	93	9.6	
1/LM LT SP 52	30	0.91	44	2.8	80	19	6.6	4.5	7.2	4	4	88	9.4	
RULE														
LANKART LX-571														
100 PERCENT														
1/LM LT SP 52	33	1.05	43	4.1	74	20	7.1	4.6	6.6	3	4	92	8.0	
1/LM LT SP 52	33	1.06	44	3.7	76	21	7.6	3.0	4.0	3	4	94	6.3	
TULIA														
STRIPPER 31														
90 PERCENT														
SLM LT SP 42	29	0.89	44	3.0	82	20	6.3	2.3	4.2	3	3	93	7.0	
1/LM LT SP 52	29	0.88	44	2.9	80	19	6.8	3.0	4.8	4	4	90	7.6	
1/LM LT SP 52	29	0.86	44	2.9	78	20	7.3	3.3	5.1	4	4	90	8.1	
OKLAHOMA														
ALTUS														
LANKART 57														
100 PERCENT														
SLM LT SP 42	32	0.99	43	4.2	82	21	7.0	2.2	3.8	4	4	90	6.3	
SLM LT SP 42	31	1.00	46	4.1	77	20	8.0	2.1	3.4	4	4	90	5.7	
SLM LT SP 42	31	0.95	43	3.7	81	20	7.9	1.8	3.2	3	4	92	4.9	
SAYRE														
LANKART 611														
70 PERCENT														
SLM LT SP 42	30	0.92	44	3.2	87	21	6.8	2.7	4.2	3	4	91	7.5	
SLM LT SP 42	30	0.95	45	2.9	81	21	7.4	3.5	4.8	3	3	94	7.2	
SLM LT SP 42	30	0.94	44	3.1	85	20	7.1	2.4	3.9	4	4	90	6.4	
SNYDER														
LANKART 57														
100 PERCENT														
SLM LT SP 42	32	0.99	46	4.7	76	21	7.2	1.4	2.7	3	3	94	6.1	
SLM LT SP 42	31	0.99	45	4.1	78	20	7.3	1.8	3.0	3	4	92	5.4	
SLM LT SP 42	31	0.95	45	4.1	77	20	7.9	1.9	3.2	4	4	91	4.1	

reduced from 42 because of bark

1/reduced from 42 because of bark

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area Chronological sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blechd.yarn			Color - 22s dyed yarn		
		8s or 7½ tex	22s or 27 tex	8s or 7½ tex	22s or 27 tex	8s or 7½ tex	22s or 27 tex	8s or 7½ tex	22s or 27 tex		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Staple			Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																			
NORTHWEST TEXAS																			
PADUCAH																			
LANKART 57																			
90 PERCENT																			
SLM LT SP	42 31	292	86	7.6	6.4	120	110	65	36	46	64.7	11.5	86	83.9	4.1	98	26.8	26.6	107
SLM SP	43 31	303	90	7.2	6.6	110	90	121	69	45	60.2	12.4	80	84.3	4.0	100	26.4	26.7	108
SLM SP	43 31	299	90	7.5	6.8	120	110	88	47	41	60.4	12.5	81	83.9	4.0	99	26.9	26.5	106
PLAINVIEW																			
PAYMASTER 18																			
80 PERCENT																			
1/2LM LT SP	52 31	304	92	7.2	6.1	120	120	82	53	36	66.9	11.7	92	82.8	4.1	96	26.6	26.8	108
1/2LM LT SP	52 30	294	85	7.0	6.3	120	110	77	50	36	67.3	11.2	91	85.4	3.8	103	27.9	25.7	101
1/2LM LT SP	52 30	291	87	7.2	6.3	120	110	95	57	32	66.9	11.2	90	84.8	3.8	102	29.3	25.2	96
RULE																			
LANKART LX-571																			
100 PERCENT																			
1/2LM LT SP	52 33	288	84	7.1	6.0	120	100	86	58	45	66.1	11.1	88	84.2	4.2	99	27.4	26.7	106
1/2LM LT SP	52 33	316	92	8.1	7.6	120	110	71	40	42	65.8	11.6	89	84.0	4.2	98	27.3	26.2	104
TULIA																			
STRIPPER 31																			
90 PERCENT																			
SLM LT SP	42 29	290	84	7.2	6.0	120	120	52	29	38	65.8	11.0	87	84.2	4.5	97	28.1	25.7	101
1/2LM LT SP	52 29	290	85	7.2	6.2	120	120	56	38	31	65.4	11.8	89	82.8	4.2	95	28.4	25.6	100
1/2LM LT SP	52 29	292	84	6.7	5.9	120	110	55	36	25	65.6	11.7	89	83.4	4.1	97	28.6	25.8	100
OKLAHOMA																			
ALTUS																			
LANKART 57																			
100 PERCENT																			
SLM LT SP	42 32	297	88	7.1	6.4	120	120	42	21	46	65.5	11.1	87	83.7	4.3	97	27.4	26.2	104
SLM LT SP	42 31	312	91	7.9	6.7	130	130	28	18	43	64.9	11.2	86	82.0	4.7	91	26.9	26.1	105
SLM LT SP	42 31	311	91	8.0	6.8	130	120	30	21	42	65.2	11.4	87	81.9	4.4	92	27.4	26.6	106
SAYRE																			
LANKART 611																			
70 PERCENT																			
SLM LT SP	42 30	293	87	6.3	6.1	120	110	61	35	37	66.3	11.4	89	84.9	4.5	99	28.4	25.9	101
SLM LT SP	42 30	313	95	7.2	6.5	110	100	59	37	43	66.9	11.4	91	83.6	4.5	96	27.7	25.8	102
SLM LT SP	42 30	307	91	7.2	6.2	120	110	69	37	40	67.5	11.1	91	82.5	4.5	93	28.7	25.9	100
SNYDER																			
LANKART 57																			
100 PERCENT																			
SLM LT SP	42 32	299	86	7.4	6.2	120	120	35	25	44	65.3	10.9	86	83.5	4.1	97	26.9	26.9	108
SLM LT SP	42 31	306	90	7.5	6.7	130	120	45	27	43	65.4	11.0	86	82.4	4.3	94	26.4	26.7	108
SLM LT SP	42 31	305	90	7.8	6.5	120	120	39	25	40	64.8	11.5	87	83.3	4.1	97	26.6	27.3	110

 $\frac{1}{2}$ /reduced from $\frac{1}{2}$ because of bark

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage	Elon- gation 1/8"	Visible waste	Total waste	Gray- ness	Yellow- ness		Composite color
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
WEST													
NEW MEXICO													
CAUSEY													
75 PERCENT													
1/LM LT SP 52	30		0.85	45	3.0	83	19	6.3	4.5	3	4	92	8.3
1/LM LT SP 52	29		0.88	45	2.9	82	20	5.9	5.0	3	4	92	8.9
1/LM LT SP 52	29		0.88	46	3.0	85	20	6.5	4.0	3	3	94	8.3
PORTALES													
80 PERCENT													
RILCOT 90													
1/LM LT SP 52	30		0.87	45	2.9	83	20	6.8	5.8	3	4	91	11.1
1/LM LT SP 52	30		0.83	45	2.7	85	20	6.2	5.9	3	3	95	11.0
1/LM LT SP 52	29		0.85	45	2.9	82	21	6.7	5.6	4	4	90	9.8
1/ reduced from 42 because of bark													

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST													
ALABAMA													
ATMORE													
DELTAPINE 16													
75 PERCENT													
SLM	41	34	1.13	45	4.6	75	21	7.2	1.8	2.5	3	96	5.4
SLM	41	34	1.10	44	4.4	74	22	8.0	1.5	2.5	2	99	5.3
LM	51	34	1.08	44	4.5	73	22	7.3	2.8	3.7	3	97	6.9
LM	51	34	1.06	44	4.2	78	22	6.9	1.9	2.7	2	97	7.2
CHEROKEE													
DELTAPINE 16													
100 PERCENT													
SLM	41	35	1.11	44	4.3	79	21	7.6	1.6	2.7	2	98	5.4
SLM LT SP 42	42	35	1.11	43	4.1	75	21	8.3	1.4	3.1	3	95	5.4
SLM LT SP 42	42	34	1.09	44	4.1	77	22	7.7	2.1	3.3	2	98	6.6
GERALDINE													
COKER 201													
100 PERCENT													
SLM	41	34	1.10	43	4.5	77	22	7.5	1.4	2.3	2	99	5.0
SLM	41	34	1.03	45	4.3	79	21	6.0	1.3	2.9	3	95	5.9
SLM	41	33	1.02	43	4.3	73	20	6.1	1.2	2.1	2	97	6.3
LAFAYETTE													
DIXIE KING II													
90 PERCENT													
LM	51	35	1.11	46	4.8	77	23	7.0	2.6	3.7	3	92	5.8
LM	51	35	1.08	45	4.3	75	22	7.4	1.5	2.5	2	98	5.4
LM	51	35	1.08	45	4.5	74	21	7.5	2.9	3.2	2	97	6.3
MONTGOMERY													
MCNAIR 1032B													
75 PERCENT													
SLM	41	33	1.04	48	5.1	86	25	5.7	2.8	3.5	2	97	6.2
LM	51	33	1.03	49	4.9	84	22	5.6	2.7	2.9	3	92	6.5
LM	51	33	1.04	44	4.5	83	22	5.9	2.2	3.2	2	96	6.5
PRATTVILLE													
COKER 417													
100 PERCENT													
SLM	41	35	1.12	45	4.4	82	23	5.6	1.6	2.4	2	97	5.8
SLM	41	35	1.13	44	4.2	83	23	5.9	2.1	3.2	2	98	5.8
SLM	41	35	1.15	45	4.3	85	23	5.8	1.4	2.0	1	101	6.0
LM	51	35	1.12	43	4.2	81	24	5.7	2.0	3.1	2	97	5.8
RUSSELLVILLE													
STONEVILLE 213													
100 PERCENT													
SLM	41	35	1.13	47	4.6	79	22	7.0	2.5	3.2	3	96	4.9
SLM	41	34	1.06	44	4.4	77	20	6.5	1.6	2.2	2	97	5.2
SLM	41	33	1.02	44	4.4	77	19	6.4	1.0	1.8	3	94	5.9

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance			Yarn imprfctns.			Spinning		Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn			
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Spinning Poten- tial	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Code	32d In.	Lbs.	Ibs.	Pct.	Pct.	Index	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	+b	Index	Rd	+b	Index
SOUTH EAST																								
ALABAMA																								
ATMORE																								
75 PERCENT																								
DELTAPINE 16																								
SLM		41 34	99	36	6.7	5.9	110	80	16	16	61	69.6	10.3	93	84.6	2.7	105	26.3	27.3	111				
SLM		41 34	94	33	6.8	5.1	100	80	10	10	61	70.4	10.2	94	86.2	2.4	110	26.9	28.1	113				
LM		51 34	97	34	6.7	5.4	110	80	17	14	62	70.2	10.2	94	85.6	2.7	108	26.5	28.1	113				
LM		51 34	98	35	6.4	5.5	90	70	23	18	57	67.7	10.1	88	84.3	3.3	102	27.2	27.1	108				
CHEROKEE																								
100 PERCENT																								
DELTAPINE 16																								
SLM		41 35	97	34	6.7	5.5	100	70	35	27	63	69.0	10.8	93	84.4	3.0	104	25.3	27.3	113				
SLM LT SP		42 35	93	32	6.9	5.2	100	70	28	21	62	68.9	10.7	93	85.1	2.9	106	25.8	27.9	114				
SLM LT SP		42 34	89	28	6.7	4.8	90	70	24	19	58	68.7	10.6	92	84.8	3.1	104	27.0	27.2	109				
GERALDINE																								
100 PERCENT																								
COKER 201																								
SLM		41 34	94	33	6.9	5.3	110	80	14	13	60	70.4	10.3	95	85.4	2.7	107	25.4	28.4	117				
SLM		41 34	90	29	6.2	4.6	120	90	16	13	58	69.1	10.6	93	85.6	2.7	108	25.1	27.7	115				
SLM		41 33	82	25	5.9	4.9	120	90	12	11	49	68.6	10.2	90	83.8	2.9	103	26.8	27.7	111				
LAFAYETTE																								
90 PERCENT																								
DIXIE KING II																								
LM		51 35	101	36	7.2	5.3	120	90	17	12	69	66.7	10.4	87	85.1	2.9	106	26.3	27.9	113				
LM		51 35	97	34	7.3	5.6	120	90	10	8	61	70.7	10.3	95	84.5	2.8	105	26.7	28.1	113				
LM		51 35	99	35	6.9	5.7	110	90	19	18	64	69.3	10.6	93	83.9	3.2	102	26.4	26.8	108				
MONTGOMERY																								
MCNAIR 10328																								
75 PERCENT																								
SLM		41 33	105	35	6.0	4.7	120	90	13	9	59	69.7	10.7	94	84.1	2.9	103	26.1	28.1	114				
LM		51 33	102	35	6.2	4.7	120	100	14	14	56	66.3	11.0	88	84.6	3.1	104	25.7	27.9	114				
LM		51 33	97	32	6.1	4.5	100	80	25	18	58	69.8	9.6	91	83.5	3.4	100	27.9	26.1	103				
PRATTVILLE																								
COKER 417																								
100 PERCENT																								
SLM		41 35	110	41	6.3	4.9	100	70	35	28	70	68.9	11.2	95	84.1	2.8	104	26.8	27.1	109				
SLM		41 35	113	44	6.3	5.2	110	80	28	24	66	68.5	10.6	92	85.2	2.8	106	26.0	27.6	112				
SLM		41 35	113	43	6.8	5.4	100	80	29	21	69	71.1	10.3	96	84.3	2.8	104	27.4	27.6	110				
LM		51 35	108	43	6.6	5.1	100	90	22	14	66	69.2	9.6	90	92.1	3.0	98	27.6	26.5	105				
RUSSELLVILLE																								
STONEVILLE 213																								
100 PERCENT																								
SLM		41 35	107	36	6.7	5.4	90	90	30	22	67	66.2	11.5	89	94.1	3.4	101	26.3	27.2	110				
SLM		41 34	92	32	6.4	5.0	120	90	19	15	61	69.7	11.3	97	85.2	2.9	106	26.3	28.0	113				
SLM		41 33	80	25	6.0	4.7	100	80	15	14	51	67.5	10.7	90	84.2	3.4	102	28.2	26.8	105				

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Fiber strength		Elon- gation 1/8"		Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		2.5% span length	50/2.5 unif.	Micro- naire	Zero Gage	1/8" Gage	G/tex	Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST													
ALABAMA													
ST. CLAIR													
85 PERCENT													
SLM	41	35	1.09	46	4.9	82	22	5.7	2.7	3.6	2	3	97
LM	51	35	1.10	45	4.5	79	22	5.7	3.5	4.6	3	2	96
SLM	41	34	1.08	45	4.9	78	23	5.9	1.9	2.9	2	3	97
LM	51	34	1.07	43	4.6	80	22	6.0	1.9	2.6	2	3	97
100 PERCENT													
DIXIE KING II													
SLM	41	34	1.03	44	4.4	82	21	5.2	1.2	1.9	3	3	96
LM	51	34	1.07	46	4.3	80	21	5.9	2.2	2.8	3	3	93
LM	51	33	1.06	43	3.7	77	21	5.9	2.2	3.2	2	3	96
GEORGIA													
BOSTWICK													
100 PERCENT													
DIXIE KING II													
SLM LT SP	42	34	1.02	46	4.7	80	21	5.8	2.6	3.2	3	4	94
SLM LT SP	42	34	1.03	47	4.7	78	20	5.6	2.3	3.4	3	3	95
LM LT SP	52	34	1.01	45	4.6	78	20	5.8	2.5	3.5	4	3	85
LM LT SP	52	34	1.03	44	4.7	76	20	5.7	2.7	3.9	5	3	83
100 PERCENT													
COMER													
100 PERCENT													
SLM	41	34	1.06	45	4.6	81	20	6.4	2.5	3.4	3	4	96
SLM	41	34	1.07	47	4.8	77	21	5.6	1.8	2.8	2	3	96
LM	51	33	1.08	43	4.3	76	20	6.3	2.3	3.2	4	3	87
100 PERCENT													
PINEHURST													
100 PERCENT													
LM	51	35	1.11	44	3.9	82	22	5.7	2.8	3.7	2	3	97
LM	51	35	1.09	45	4.1	81	23	5.7	1.4	2.7	3	3	93
LM	51	34	1.12	44	3.9	78	22	5.7	1.6	2.9	2	3	96
80 PERCENT													
SHELLMAN													
DELTA PINE 16													
SLM	41	35	1.08	44	4.1	76	22	7.0	1.2	2.3	1	2	101
SLM	41	34	1.07	45	4.1	79	24	7.1	1.3	2.2	2	3	99
LM	51	34	1.10	44	4.3	80	22	6.1	2.4	3.3	3	3	93
99 PERCENT													
STAPLETON													
100 PERCENT													
SLM	41	34	1.06	45	4.5	80	21	5.8	2.4	3.3	2	3	96
LM LT SP	52	34	1.06	46	4.5	78	21	6.1	2.7	3.6	3	4	91
SLM LT SP	42	34	1.04	45	4.5	73	20	6.1	2.8	3.9	4	4	88
LM	51	34	1.07	45	4.9	77	22	5.9	3.1	3.9	3	2	93

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Spin- ning Poten- tial	Color - 22s gray yarn				Color - 22s bichd. yarn			
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Com- posite	Index	Reflect- ance	Yellow- ness	Com- posite	Index
Name	Code	32d In.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	tb	Index	Rd	tb	Index	Index
SOUTH EAST																
ALABAMA																
ST. CLAIR																
COKER 201																
SLM	41 35	100	32	6.0	4.5	120	90	14	13	69.5	10.7	94	84.1	2.8	104	25.1 28.6 118
LM	51 35	98	34	5.9	4.7	100	80	24	17	68.6	10.2	90	84.4	2.8	105	26.7 27.5 111
SLM	41 34	97	34	6.3	5.0	110	90	20	16	69.9	10.1	93	83.5	3.4	100	26.9 26.7 107
LM	51 34	91	29	6.1	4.7	100	80	19	21	70.1	9.8	92	83.8	2.8	103	27.0 27.8 111
SYLACAUGA																
DIXIE KING II																
SLM	41 34	90	29	6.0	4.3	120	80	12	8	68.4	10.7	92	84.5	3.2	103	27.1 26.8 107
LM	51 34	99	34	6.8	4.9	120	90	20	18	67.3	10.6	89	85.1	2.7	107	26.6 27.7 112
LM	51 33	92	31	6.2	4.6	100	70	21	17	69.2	10.4	92	84.1	2.9	103	27.4 27.5 109
GEORGIA																
BOSTWICK																
DIXIE KING II																
SLM LT SP	42 34	93	30	6.2	4.8	120	90	12	8	66.7	11.5	91	84.3	3.5	102	27.3 27.0 107
SLM LT SP	42 34	93	31	5.8	4.6	130	100	14	10	67.2	11.2	91	84.4	3.3	103	27.7 26.8 106
LM LT SP	52 34	84	26	5.4	3.9	120	90	16	14	62.8	10.9	82	84.6	3.2	103	27.5 27.2 108
LM LT SP	52 34	81	26	5.6	4.4	120	100	13	10	63.4	10.2	81	85.0	3.6	103	27.8 27.2 107
COMER																
COKER 201																
SLM	41 34	100	34	6.6	5.0	120	90	17	12	67.6	11.1	91	83.1	3.1	100	25.3 27.2 112
SLM	41 34	97	34	5.9	4.8	120	100	18	13	67.5	10.8	90	83.9	2.7	104	25.0 28.4 118
LM	51 33	88	29	6.2	4.8	110	80	21	25	63.0	10.1	80	83.8	3.1	102	26.0 28.0 114
PINEHURST																
COKER 417																
LM	51 35	116	42	7.3	5.4	100	80	19	21	68.5	10.3	90	83.7	3.2	101	27.2 26.4 105
LM	51 35	109	41	6.2	5.4	100	80	31	21	65.5	10.5	85	85.3	3.1	106	27.3 26.9 107
LM	51 34	107	39	6.8	5.5	100	80	16	17	67.6	10.1	88	84.5	3.0	104	28.5 26.9 105
SHELLMAN																
DELTAPINE 16																
SLM	41 35	107	38	7.3	5.7	110	90	19	16	71.0	10.2	95	84.6	2.9	105	27.1 26.9 107
SLM	41 34	101	37	6.7	5.7	100	80	18	16	69.5	10.8	94	85.3	3.0	106	26.8 27.8 112
LM	51 34	103	37	6.5	5.2	100	70	27	22	65.7	10.6	86	84.7	3.3	103	27.6 27.3 108
STAPLETON																
COKER 201																
SLM	41 34	100	35	6.5	5.1	120	80	14	11	68.4	11.2	93	84.6	3.1	104	26.4 27.8 112
LM LT SP	52 34	96	31	5.8	4.5	130	90	15	16	66.1	11.2	88	85.1	3.2	105	27.1 27.5 110
SLM LT SP	42 34	86	27	5.8	4.3	110	80	20	19	65.0	10.9	85	84.7	3.0	104	27.2 27.7 110
LM	51 34	87	28	5.7	4.4	110	90	14	15	66.9	10.1	87	93.7	2.9	103	28.3 27.1 106

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"		Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage	G/tex	Pct.	Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name		32d in.	In.	Pct.	Mpsi				Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST														
NORTH CAROLINA														
LAURINBURG														
MCNAIR 1032														
100 PERCENT*														
LM+	50	35	1.07	46	94	24	6.5		3.5	4.0	2	2	99	6.2
LM	51	35	1.07	47	80	23	6.4		3.3	4.2	3	2	93	6.8
LM	51	35	1.04	46	82	23	6.1		2.7		3	2	92	7.1
LM	51	34	1.05	46	79	23	6.7		2.9	3.8	3	2	94	7.1
LAURINBURG														
MCNAIR 511														
100 PERCENT*														
SLM	41	35	1.08	46	81	22	6.3		2.7	3.7	3	3	94	6.6
SLM	41	35	1.06	47	81	23	6.3		3.9	4.8	2	2	97	6.7
LM	51	35	1.04	46	81	21	6.5		2.4	3.3	3	2	94	6.8
PINEVILLE														
TH-149														
100 PERCENT														
LM	51	35	1.09	45	79	22	5.3		3.1	4.1	4	2	87	7.5
LM LT SP 52	52	35	1.12	45	81	24	5.4		3.3	4.1	5	3	82	7.7
SHELBY														
COKER 201														
100 PERCENT														
LM LT SP 52	52	34	1.06	44	75	20	5.7		2.7	4.0	5	3	83	7.9
LM LT SP 52	52	34	1.04	44	74	20	5.8		3.6	4.9	5	3	82	8.6
SOUTH CAROLINA														
CALHOUN FALLS														
COKER 201														
100 PERCENT														
LM	51	35	1.10	45	77	22	5.9		3.9	4.9	3	2	95	7.4
LM	51	35	1.11	46	78	21	6.6		4.6	5.4	3	2	95	8.0
LM LT SP 52	52	35	1.11	45	79	23	6.1		3.5	4.9	4	3	87	7.9
LM	51	35	1.07	45	77	21	6.2		2.2	2.9	3	2	91	7.5
CHESTER														
COKER 201														
100 PERCENT														
LM LT SP 52	52	35	1.12	40	78	21	5.7		3.3	4.8	5	3	83	7.8
LM LT SP 52	52	34	1.09	43	75	20	5.9		2.7	4.4	4	3	85	8.7
MINTURN														
COKER 417														
100 PERCENT														
LM	51	36	1.14	45	76	22	6.2		4.4	5.5	3	2	93	7.2
LM LT SP 52	52	36	1.16	46	81	24	6.2		4.4	5.2	3	2	90	7.3
LM LT SP 52	52	36	1.13	45	80	22	6.1		3.2	4.8	4	2	88	7.4
LM LT SP 52	52	35	1.12	44	79	22	5.9		3.3	4.3	4	2	88	8.0

* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Color - 22s gray yarn		Color-22s blchd. yarn		Color - 22s dyed yarn		
Grade	Staple		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Spin- ning Poten- tial	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Name	Code	32d In.	Lbs.	Pct.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index
SOUTH EAST																	
NORTH CAROLINA																	
LAURINBURG																	
MCNAIR 1032																	
LM+	50	35	115	41	7.0	5.5	110	70	21	19	66	70.3	10.2	94	84.5	2.9	104
LM	51	35	112	40	6.8	5.2	110	90	20	15	62	66.7	10.4	87	83.8	2.8	103
LM	51	35	110	39	6.7	5.5	110	90	21	16	66	66.0	9.9	85	84.1	2.8	104
LM	51	34	104	36	6.8	5.2	120	90	25	19	62	68.9	8.8	87	83.2	2.7	102
LAURINBURG																	
MCNAIR 511																	
SLM	41	35	107	37	6.5	5.3	100	80	21	19	61	66.0	10.5	86	84.6	3.0	104
SLM	41	35	107	38	6.3	5.2	100	80	24	21	63	68.8	9.8	89	84.9	2.6	107
LM	51	35	100	35	6.4	5.2	110	90	21	19	59	67.8	9.4	87	83.8	2.8	103
PINEVILLE																	
TH-149																	
LM	51	35	102	36	6.2	5.0	110	90	19	12	67	63.5	9.4	80	82.3	3.5	97
LM LT SP	52	35	97	34	5.9	4.6	120	100	20	13	68	60.3	9.9	76	82.0	2.9	99
SHELBY																	
COKER 201																	
LM LT SP	52	34	81	26	5.7	4.3	110	90	16	11	55	66.1	9.7	85	83.5	3.9	98
LM LT SP	52	34	81	26	5.6	4.0	110	90	22	16	53	60.0	9.8	75	83.3	3.6	99
SOUTH CAROLINA																	
CALHOUN FALLS																	
COKER 201																	
LM	51	35	108	38	6.9	5.4	120	90	15	14	62	68.7	10.9	93	84.7	3.0	104
LM	51	35	108	39	6.8	5.3	120	100	22	18	67	69.2	10.6	93	84.6	2.8	105
LM LT SP	52	35	102	37	6.7	5.4	110	100	24	14	61	64.7	10.7	85	85.3	3.2	105
LM	51	35	97	34	6.6	5.4	110	90	14	12	61	66.1	9.9	85	84.9	2.9	105
CHESTER																	
COKER 201																	
LM LT SP	52	35	90	30	6.4	4.6	100	70	32	28	60	61.9	10.6	79	85.5	3.2	106
LM LT SP	52	34	82	26	5.8	4.3	100	80	22	17	52	63.1	10.0	80	84.1	2.7	104
MINTURN																	
COKER 417																	
LM	51	36	115	42	7.2	5.6	100	80	30	29	72	66.8	10.4	87	84.8	3.0	105
LM LT SP	52	36	115	43	6.8	5.6	100	80	22	19	70	66.0	10.4	86	84.0	3.0	103
LM LT SP	52	36	107	41	6.5	5.2	100	80	30	25	73	65.1	9.8	83	84.3	2.7	105
LM LT SP	52	35	102	37	6.4	5.0	100	80	26	21	68	66.5	9.4	85	84.1	2.9	103

* 100 percent selected for tests, less than 100 percent in the area

* 100 percent selected for tests, less than 100 percent in the area

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification				Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste	
Grade		Staple	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	Pct.
SOUTH CENTRAL																
ARKANSAS																
CLARENDON																
DELTA PINE 16																
SLM	41	36	1.16	46		4.7	78	23	7.2	1.6	2.2	2	2	3	100	4.7
1/LM	51	36	1.12	46		4.7	80	23	6.5	3.0	4.0	2	2	2	96	5.9
1/LM	51	35	1.06	45		4.1	82	22	6.8	2.2	3.0	2	2	2	97	5.3
DUMAS																
STONEVILLE 213																
SLM	41	36	1.12	46		4.9	85	22	6.6	1.9	2.5	2	2	3	99	5.2
SLM	41	35	1.09	46		4.6	83	22	6.0	1.4	1.9	2	2	2	96	4.1
SLM	41	34	1.06	44		3.1	83	24	7.1	2.0	3.0	2	2	2	99	5.8
ELAINE																
STONEVILLE 213																
SLM	41	35	1.09	45		4.5	84	22	6.3	3.2	3.8	2	2	3	96	6.4
SLM	41	34	1.08	46		4.5	84	23	6.4	2.9	4.1	2	2	2	98	6.3
1/LM	51	35	1.08	45		3.9	87	23	6.8	4.4	5.5	2	2	2	97	7.4
EUDORA																
DELTA PINE 16																
SLM	41	36	1.15	45		4.1	85	25	7.2	1.9	2.6	2	2	3	97	4.7
SLM	41	35	1.13	46		4.4	79	24	7.5	1.7	2.7	2	2	2	98	5.1
SLM	41	35	1.12	46		4.0	78	23	7.9	2.1	3.2	1	2	2	100	5.0
HUGHES																
STONEVILLE 213																
SLM	41	36	1.16	46		4.8	85	23	5.9	1.5	2.5	3	3	3	95	4.8
SLM	41	35	1.11	45		4.3	79	22	6.6	1.8	2.8	2	3	3	99	5.2
SLM	41	34	1.07	45		4.3	80	21	6.7	1.7	2.4	3	3	3	95	5.1
KEISER																
DELTA PINE 16																
SLM	41	36	1.19	45		4.3	83	23	7.3	2.1	2.9	2	2	2	97	5.3
SLM	41	36	1.13	44		4.3	81	23	7.2	1.8	2.5	1	2	2	100	4.8
SLM	41	35	1.12	45		3.7	84	24	7.6	1.4	2.4	2	2	2	99	5.2
LEACHVILLE																
BRYCOT #4																
SLM	41	36	1.17	45		4.6	89	23	6.0	2.0	2.9	2	2	3	96	5.7
SLM	31	35	1.13	44		4.5	90	22	5.3	1.2	2.4	1	1	3	102	5.2
SLM	41	35	1.09	44		4.4	84	21	5.3	1.6	2.6	2	2	2	100	5.9
/reduced from 41 because of grass																

1/reduced from 41 because of grass

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning poten- tial	Color - 22s gray yarn		Color-22s blchd. yarn		Color - 22s dyed yarn				
Grade	Staple	32d In.	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	+b	Index	Reflect- ance	+b	Index	Reflect- ance	-b	Index
SOUTH CENTRAL																				
ARKANSAS																				
CLARENDON																				
DELTA PINE 16																				
SLM	41	36	114	41	6.8	5.1	130	100	18	15	72	71.3	10.1	96	84.5	2.6	106	25.9	28.0	114
1/LM	51	36	107	38	6.3	4.7	120	100	22	15	67	70.1	10.5	95	84.0	2.8	104	27.2	27.0	108
2/LM	51	35	108	38	6.4	4.7	120	100	24	12	64	71.4	9.8	95	83.2	2.9	101	26.3	27.9	113
DUMAS																				
STONEVILLE 213																				
SLM	41	36	108	38	6.2	4.7	120	100	14	12	65	70.5	10.5	96	85.1	2.7	107	26.7	27.4	110
SLM	41	35	110	39	6.2	4.6	130	100	16	10	64	70.9	10.3	96	83.7	3.1	102	26.6	27.4	110
SLM	41	34	115	42	6.7	5.0	120	90	37	27	70	70.3	11.0	97	84.9	3.0	105	26.1	26.7	109
ELAINE																				
STONEVILLE 213																				
SLM	41	35	111	39	6.0	4.5	120	100	15	13	59	71.1	10.7	97	84.7	3.0	104	26.2	27.9	113
SLM	41	34	110	38	6.2	4.5	120	90	20	14	62	72.1	10.4	98	85.0	2.9	106	25.8	28.3	116
1/LM	51	35	112	40	6.2	4.6	120	100	26	17	63	72.1	10.3	98	84.3	2.8	104	26.3	26.9	109
EUDORA																				
DELTA PINE 16																				
SLM	41	36	115	41	6.6	5.2	120	90	22	13	71	68.8	10.4	92	85.0	2.8	106	26.1	27.1	110
SLM	41	35	112	39	6.5	4.8	130	100	19	13	67	70.3	10.0	93	84.6	2.6	106	26.7	27.6	111
SLM	41	35	114	41	6.7	5.0	120	100	20	13	74	72.3	9.3	95	84.6	2.6	106	26.6	27.5	111
HUGHES																				
STONEVILLE 213																				
SLM	41	36	112	41	6.1	4.6	120	100	20	15	71	68.7	10.6	92	83.4	2.9	102	26.8	26.8	108
SLM	41	35	105	38	6.3	4.9	120	90	22	16	64	69.6	10.6	94	85.2	3.0	106	27.1	27.0	108
SLM	41	34	104	34	6.2	4.3	120	90	24	16	59	69.2	9.9	91	84.2	3.0	103	27.0	27.1	108
KEISER																				
DELTA PINE 16																				
SLM	41	36	120	44	6.8	5.4	120	90	23	17	79	70.9	9.7	94	84.2	2.5	105	25.5	27.9	115
SLM	41	36	115	41	7.1	5.5	120	100	15	11	70	72.3	9.7	96	84.5	2.5	106	26.0	27.7	113
SLM	41	35	119	42	7.1	5.1	120	100	16	10	74	71.2	10.1	96	85.2	2.7	107	25.5	27.8	114
LEACHVILLE																				
BRYCOT #4																				
SLM	41	36	114	42	6.0	4.5	120	100	21	15	71	68.8	10.5	92	83.8	2.8	103	26.3	28.1	114
SLM	31	35	104	34	6.1	4.3	120	90	17	13	60	72.1	10.3	98	84.6	2.7	105	27.2	27.1	108
SLM	41	35	105	35	5.9	3.9	120	90	21	11	58	70.5	10.1	94	84.4	3.1	103	27.2	26.9	107

reduced from 41

of grass

1/reduced from 41 because of grass

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL													
ARKANSAS													
LEACHVILLE													
STONEVILLE 213													
SLM	41	36	1.16	46	82	23	7.7	2.4	3.4	2	3	100	5.9
SLM	41	35	1.10	45	81	22	7.0	1.2	2.5	2	3	97	5.8
SLM	41	35	1.09	45	81	22	6.3	2.0	3.0	2	3	98	5.7
OSCEOLA													
STONEVILLE 7A													
100 PERCENT													
SLM	41	36	1.13	44	87	22	5.7	2.2	2.9	2	3	99	5.4
LM+	50	34	1.10	45	88	22	5.7	3.3	4.2	2	2	93	6.6
SLM	41	34	1.06	43	82	20	6.0	2.2	3.2	2	3	98	5.9
PARKIN													
REX SL-66													
95 PERCENT													
SGO	61	36	1.14	46	82	22	6.1	4.2	5.2	3	3	90	7.2
SLM	41	35	1.10	46	81	21	5.8	1.6	2.3	2	3	96	5.3
SLM	41	34	1.08	46	81	21	6.3	1.8	3.0	2	2	100	5.5
PROCTOR													
STONEVILLE 213													
100 PERCENT													
SLM	41	34	1.07	44	80	21	7.4	1.8	2.8	2	3	100	5.9
SLM	41	34	1.08	45	79	21	6.2	2.2	3.2	2	2	99	5.9
LM	51	34	1.07	44	81	21	7.4	3.1	4.6	2	2	98	7.4
WILSON													
STONEVILLE 213													
100 PERCENT													
LM+	50	36	1.16	47	83	22	6.4	3.6	4.8	3	3	93	7.7
SLM	41	35	1.11	46	83	22	6.3	2.4	3.4	2	3	99	6.0
SLM	41	35	1.07	46	84	23	6.4	2.6	3.5	2	3	96	5.7
WYNNE													
DELTAPINE 16													
100 PERCENT													
SLM	41	36	1.15	45	83	24	7.4	1.9	2.8	2	3	93	5.6
SLM	41	35	1.11	45	76	22	7.1	1.6	2.8	2	3	100	5.8
LM	51	34	1.10	42	81	23	8.4	3.4	4.8	2	2	97	7.7
LOUISIANA													
LAKE PROVIDENCE													
STONEVILLE 213													
100 PERCENT													
M	31	35	1.07	45	83	23	6.7	1.7	2.5	2	3	100	4.8
SLM	41	35	1.09	46	82	22	6.2	2.4	3.3	2	3	98	5.4
SLM	41	34	1.06	44	85	23	7.5	1.7	2.7	1	2	101	5.7

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blechd. yarn			Color - 22s dyed yarn				
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
Grade	Staple																				
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	+b	Index	
SOUTH CENTRAL																					
ARKANSAS																					
LEACHVILLE																					
STONEVILLE 213																					
SLM		41	36	117	42	6.6	5.2	110	90	28	22	70	71.9	10.8	99	84.4	2.9	104	24.3	29.2	122
SLM		41	35	104	36	6.2	4.8	120	100	18	14	62	69.8	10.7	95	84.7	3.0	104	25.4	27.7	114
SLM		41	35	109	38	6.3	4.9	120	90	21	14	66	69.0	10.7	93	85.0	2.6	107	26.6	27.4	110
OSCEOLA																					
STONEVILLE 7A																					
SLM		41	36	110	39	6.1	4.4	110	90	30	21	66	70.8	10.7	97	83.9	2.7	104	26.5	27.0	109
LM+		50	34	106	36	5.6	4.3	120	90	19	15	59	72.7	10.0	98	85.6	2.9	107	27.0	27.3	109
SLM		41	34	92	28	5.7	3.5	110	90	31	27	51	71.4	10.4	97	84.5	2.6	106	26.9	27.3	109
PARKIN																					
REX SL-66																					
95 PERCENT																					
SGO		61	36	110	41	6.3	4.8	120	100	27	19	70	66.1	10.2	86	83.3	3.0	101	25.6	27.0	111
SLM		41	35	105	38	6.0	4.6	120	100	16	11	74	70.5	10.1	94	84.2	2.9	104	26.5	27.1	109
SLM		41	34	104	38	5.9	4.1	130	110	15	9	66	72.0	9.5	95	83.5	2.9	102	27.8	26.7	105
PROCTOR																					
STONEVILLE 213																					
100 PERCENT																					
SLM		41	34	104	36	6.4	4.7	110	90	28	13	59	71.4	10.8	98	86.1	2.9	108	26.7	27.2	109
SLM		41	34	107	36	6.7	4.4	120	90	27	15	57	71.1	10.8	97	85.1	3.1	105	26.1	27.6	112
LM		51	34	100	34	6.1	4.1	100	70	48	34	54	69.9	9.8	92	83.1	3.3	100	26.8	26.9	108
WILSON																					
STONEVILLE 213																					
100 PERCENT																					
LM+		50	36	113	40	6.5	4.8	120	100	32	22	69	68.7	10.9	93	84.8	2.9	105	25.7	28.6	117
SLM		41	35	106	36	6.0	4.7	120	90	22	16	60	70.5	10.6	96	85.4	2.9	107	25.7	27.3	112
SLM		41	35	111	39	6.5	4.6	120	90	21	13	61	69.6	10.2	93	83.9	3.4	101	26.5	27.3	110
WYNE																					
DELTAPINE 16																					
100 PERCENT																					
SLM		41	36	112	40	6.1	4.4	120	90	37	26	68	69.6	10.7	94	84.6	2.9	105	26.7	27.2	109
SLM		41	35	107	37	6.5	4.6	120	90	21	15	60	72.2	10.5	98	85.0	2.7	106	26.1	27.9	113
LM		51	34	109	39	6.7	5.0	120	90	37	26	65	69.7	10.2	93	83.7	3.4	101	27.0	26.4	106
LOUISIANA																					
LAKE PROVIDENCE																					
STONEVILLE 213																					
100 PERCENT																					
M		31	35	103	35	6.0	4.6	120	100	26	18	57	70.2	10.1	93	84.5	2.8	105	26.7	27.5	111
SLM		41	35	108	37	6.3	4.6	120	90	30	19	59	71.3	10.3	96	84.4	2.5	106	26.8	27.5	110
SLM		41	34	106	36	6.5	4.4	110	90	33	23	60	72.3	10.1	97	84.3	2.8	104	27.5	26.5	105

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock				Picker & Card waste
Grade	Code	32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Pct.	Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
SOUTH CENTRAL															
LOUISIANA															
MONROE															
DELTA PINE 16															
SLM	41	35	1.13	43	4.2	80	22	8.3	1.3	2.6	2	3	98	5.3	
SLM	41	34	1.10	45	4.4	81	22	8.2	1.2	2.3	2	2	99	4.9	
M	31	34	1.09	45	4.1	81	22	8.5	1.0	2.1	1	2	103	4.7	
NATCHITOCHES															
DELTA PINE 45A															
SLM	41	34	1.06	45	4.4	80	21	5.9	1.8	3.2	3	3	95	5.8	
SLM	41	34	1.07	46	4.2	81	21	7.1	1.8	3.1	3	3	95	5.6	
SLM	41	34	1.10	43	3.9	79	21	7.5	1.6	2.8	2	2	99	5.6	
OPELOUSAS															
STONEVILLE 213															
SLM LT SP	42	34	1.03	44	4.6	73	18	7.5	1.8	2.9	4	4	90	5.5	
LM	51	34	1.07	45	4.4	77	20	6.4	2.9	3.9	4	3	88	6.6	
LM	51	34	1.05	46	4.5	76	19	6.7	2.3	3.5	4	3	90	6.4	
SHREVEPORT															
DELTA PINE 16															
SLM	41	35	1.09	45	4.6	79	23	7.6	1.0	2.0	2	3	98	5.0	
SLM	41	34	1.11	44	4.0	77	22	7.6	1.8	2.9	2	2	100	5.4	
SLM	41	34	1.10	41	2.8	78	23	8.2	1.4	2.6	2	2	100	6.0	
SICILY ISLAND															
STONEVILLE 213															
SLM	41	35	1.11	47	5.0	85	23	5.9	2.7	3.7	3	3	93	5.9	
LM	51	35	1.10	47	4.8	81	22	6.3	3.9	4.8	4	3	89	7.0	
SLM	41	34	1.06	46	4.1	81	22	7.1	2.4	3.5	2	2	98	6.7	
WATERPROOF															
DELTA PINE 16															
SLM	41	35	1.13	46	4.4	82	23	6.8	1.4	2.3	2	3	99	5.2	
SLM	41	35	1.14	45	4.3	79	22	7.1	1.9	2.6	2	2	98	5.2	
LM	51	35	1.13	44	3.8	79	23	8.0	2.5	3.7	2	2	96	6.2	
MISSISSIPPI															
BRUCE															
STONEVILLE 213															
SLM	41	35	1.09	45	4.9	78	22	6.0	1.5	2.3	2	4	97	4.5	
SLM	41	34	1.09	45	5.1	78	21	6.7	1.5	2.3	2	3	98	5.3	
SLM	41	34	1.10	45	4.7	76	21	7.2	1.4	1.9	0	2	104	6.2	

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification				Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		32d in.	In.	Pct.	Rdg.		Mpsi	G/tex		Pct.	Pct.	Total waste	Gray- ness	Yellow- ness		Composite color
Name	Code														Pct.
SOUTH CENTRAL															
MISSISSIPPI															
CLARKSDALE															
STONEVILLE 213															
LM	51	35	1.13	45	4.9	81	23	6.1	2.6	3.6	2	3	98	6.1	
SLM	41	35	1.08	44	4.9	84	23	5.9	2.2	3.1	2	3	100	6.3	
LM	51	35	1.04	40	2.8	86	22	6.5	3.3	4.3	2	2	100	8.0	
ODDOOSVILLE															
DELTAPINE 16															
SLM	41	35	1.13	43	4.7	79	24	6.8	1.6	2.4	2	3	97	5.2	
SLM	41	35	1.10	44	4.3	83	23	7.5	2.1	2.9	2	2	99	6.6	
LM	51	35	1.10	42	4.2	78	22	7.3	2.9	4.0	3	1	94	6.7	
EDWARDS															
STONEVILLE 213															
SLM	41	35	1.07	45	4.4	81	21	6.6	1.8	2.9	1	3	101	5.4	
SLM	41	35	1.09	42	4.6	60	22	6.5	2.0	2.7	1	3	101	5.5	
SLM	41	35	1.06	44	4.1	80	22	6.5	1.9	2.8	1	2	102	6.6	
EDWARDS															
DELTAPINE 16															
SLM	41	35	1.09	45	4.8	79	22	6.9	1.2	2.4	2	3	99	6.4	
SLM	41	35	1.09	44	4.3	80	22	6.8	1.2	2.3	1	2	102	6.1	
SLM LT SP	42	35	1.09	44	4.1	81	23	7.2	1.7	2.4	2	3	100	6.2	
GLENDORA															
STONEVILLE 213															
LM	51	35	1.12	44	5.0	80	23	6.1	2.3	3.4	2	3	98	5.6	
LM	51	35	1.10	45	5.1	80	21	6.2	2.1	2.8	3	3	95	6.9	
SLM	41	35	1.07	44	4.5	78	22	5.8	1.6	2.5	1	2	100	6.5	
GREENWOOD															
STONEVILLE 213															
LM	51	35	1.10	46	5.1	81	22	6.1	7.3	4.5	2	3	98	7.7	
LM	51	35	1.10	45	5.2	81	21	6.1	2.3	2.9	2	3	96	7.4	
SLM	41	34	1.05	41	4.0	81	21	7.1	1.9	3.0	1	2	101	6.2	
GUNNISON															
DELTAPINE 16															
SLM	41	36	1.15	42	4.4	81	23	7.1	1.6	2.4	2	3	99	4.2	
SLM	41	36	1.14	43	4.3	80	22	7.6	1.5	2.6	1	2	102	5.5	

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfcnts.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s bleichd. yarn		Color - 22s dyed yarn				
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
MISSISSIPPI																				
CLARKSDALE																				
100 PERCENT																				
LM	51	35	102	37	6.2	5.3	110	80	19	14	67	70.9	10.4	96	83.5	2.6	103	27.4	27.1	108
SLM	41	35	102	35	6.3	5.1	120	90	18	12	61	72.7	10.5	99	85.0	2.9	106	26.6	28.0	113
LM	51	35	97	33	6.5	5.3	90	70	23	18	60	70.7	10.3	95	84.6	3.3	103	27.2	27.4	109
100 PERCENT																				
DODOSVILLE																				
DELTAPINE 16																				
SLM	41	35	107	38	6.9	5.3	110	90	13	12	58	70.5	10.1	94	84.9	2.7	106	26.7	27.5	111
SLM	41	35	103	36	6.8	5.2	100	80	20	12	60	72.3	9.5	96	83.9	3.6	100	27.3	26.7	106
LM	51	35	98	33	6.6	5.0	100	70	23	22	59	69.2	9.1	88	84.6	2.7	105	27.6	27.4	108
85 PERCENT																				
EDWARDS																				
STONEVILLE 213																				
SLM	41	35	94	31	6.3	4.8	120	90	15	12	59	70.5	10.7	96	85.6	2.4	109	26.3	27.8	113
SLM	41	35	102	35	6.7	5.3	120	90	16	14	80	70.7	10.4	96	84.6	2.6	106	26.1	28.6	116
SLM	41	35	101	36	6.5	5.5	100	90	21	20	62	72.0	9.7	96	84.3	2.9	104	27.6	27.1	107
100 PERCENT																				
EDWARDS																				
DELTAPINE 16																				
SLM	41	35	100	35	6.5	5.1	120	80	17	12	64	70.8	10.3	95	85.8	2.6	109	25.5	28.2	116
SLM	41	35	108	35	6.9	5.5	100	80	14	11	62	73.5	9.8	98	84.3	3.1	103	26.5	27.5	111
SLM LT SP	42	35	104	37	7.1	5.5	110	80	18	13	64	69.2	10.6	93	84.2	2.7	105	26.4	27.6	112
100 PERCENT																				
GLENDDORA																				
STONEVILLE 213																				
LM	51	35	98	34	6.2	4.8	100	90	14	14	59	69.0	10.9	94	83.3	2.7	102	26.9	27.4	110
LM	51	35	96	33	6.3	4.8	100	90	24	18	58	68.5	10.8	92	84.6	2.6	106	26.6	27.5	111
SLM	41	35	93	32	6.4	5.0	110	80	15	13	56	71.2	9.6	94	83.1	3.6	98	27.9	27.0	106
100 PERCENT																				
GREENWOOD																				
STONEVILLE 213																				
LM	51	35	96	34	6.0	4.7	100	90	27	20	59	70.9	10.5	96	85.3	2.7	107	26.9	27.6	111
LM	51	35	92	31	6.0	4.8	100	70	21	17	55	68.5	11.0	93	84.2	2.7	105	25.7	28.2	115
SLM	41	34	95	32	6.5	5.1	100	80	21	16	54	71.3	10.0	95	83.4	2.7	103	27.3	26.8	107
100 PERCENT																				
GUNNISON																				
DELTAPINE 16																				
SLM	41	36	110	39	7.0	5.7	100	80	12	12	70	72.3	10.1	97	84.6	2.8	105	26.0	26.8	109
SLM	41	36	105	38	6.8	5.7	110	80	19	13	67	73.5	10.0	99	85.1	2.2	109	25.8	28.2	115

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name		32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL													
MISSISSIPPI													
INDIANOLA													
DIXIE KING II													
LM	51	35	1.09	44	4.8	87	23	4.7	5.3	3	3	93	7.4
LM	51	35	1.07	47	4.8	87	21	5.1	3.3	3	3	95	6.9
LM	51	35	1.02	43	4.0	84	21	5.2	3.9	2	2	97	9.0
INDIANOLA													
STONEVILLE 213													
SLM	41	35	1.09	46	4.9	80	22	5.9	2.4	2	3	99	6.0
SLM	41	35	1.08	45	5.0	83	23	5.7	2.9	1	3	100	5.3
SLM	41	35	1.07	45	4.2	79	22	6.2	2.5	2	3	99	7.5
PANTHER BURN													
DELTAPINE 16													
SLM	41	35	1.13	44	4.4	79	25	7.1	1.7	1	2	101	4.6
SLM	41	35	1.15	45	4.6	78	23	7.8	2.9	1	2	100	5.8
SLM	41	35	1.13	44	4.1	77	21	7.5	2.5	1	2	103	5.6
ROBINSONVILLE													
DELTAPINE 45A													
SLM	41	35	1.07	45	4.6	82	23	6.2	3.3	2	3	100	6.6
LM	51	35	1.09	46	4.4	82	23	6.7	5.4	3	3	95	8.3
SLM	41	34	1.06	43	3.7	80	22	6.7	4.6	2	2	99	8.0
ROBINSONVILLE													
STONEVILLE 213													
SLM	41	36	1.11	44	4.3	81	22	6.5	2.3	1	3	101	5.5
SLM	41	35	1.10	46	5.0	80	22	6.5	2.8	2	3	98	7.1
SLM	41	35	1.07	43	4.1	78	23	6.2	3.0	1	2	101	6.5
SCOTT													
DELTAPINE 16													
SLM	41	35	1.14	44	4.6	77	24	7.0	3.0	1	2	102	6.3
SLM	41	35	1.14	44	4.1	78	23	7.4	3.6	2	2	99	5.9
SLM	41	36	1.12	42	4.0	77	22	7.4	2.5	1	2	103	7.2
ROLLING FORK													
DELTAPINE 16													
SLM	41	34	1.11	43	4.5	78	22	6.6	2.0	1	2	102	6.1
SLM	41	34	1.07	41	3.1	80	24	6.8	2.4	0	2	104	5.8
SLM	41	34	1.07	39	3.4	82	25	7.2	2.1	1	2	103	6.3

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Code	Staple	22d	In.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	tb	Index	Rd	tb	Index	Rd	tb	Index
SOUTH CENTRAL																				
MISSISSIPPI																				
INDIANOLA																				
DIXIE KING II																				
100 PERCENT																				
LM	51	35	96	33	5.6	4.4	100	80	21	18	60	68.2	10.8	92	84.5	2.8	105	27.2	26.9	107
LM	51	35	93	28	5.4	4.1	110	90	15	11	57	66.8	10.7	88	84.3	2.9	104	28.2	26.3	103
LM	51	35	88	28	5.5	4.3	100	80	22	18	52	69.5	9.8	91	83.0	2.9	101	26.6	27.7	112
INDIANOLA																				
STONEVILLE 213																				
SLM	41	35	100	34	6.2	4.8	120	90	17	17	61	69.5	10.6	94	85.0	2.5	107	26.1	27.8	113
SLM	41	35	98	33	6.3	4.8	120	90	14	14	59	70.6	10.6	96	84.1	2.6	105	25.6	29.1	119
SLM	41	35	96	33	6.3	4.9	100	80	21	22	59	70.6	10.2	95	84.4	2.8	105	26.3	28.2	114
PANTHER BURN																				
DELTAPINE 16																				
100 PERCENT																				
SLM	41	35	108	39	6.9	5.5	100	90	11	8	64	72.2	9.9	97	85.0	2.4	108	26.7	27.4	110
SLM	41	35	108	40	7.5	5.8	110	90	14	10	61	72.8	9.9	98	85.4	2.3	109	24.8	28.7	119
SLM	41	35	110	39	7.2	5.8	100	80	11	3	65	72.9	9.2	96	84.2	3.1	103	27.1	27.6	110
ROBINSONVILLE																				
DELTAPINE 45A																				
100 PERCENT																				
SLM	41	35	100	35	6.3	5.2	100	80	19	18	61	71.4	10.8	98	84.5	2.9	104	26.5	27.4	111
LM	51	35	107	38	7.1	5.3	110	90	22	21	60	69.6	10.9	95	85.5	2.8	107	26.3	27.8	113
SLM	41	34	102	36	7.0	5.4	90	70	22	21	58	70.2	10.5	95	83.8	2.9	103	26.3	27.3	111
ROBINSONVILLE																				
STONEVILLE 213																				
100 PERCENT																				
SLM	41	36	99	34	6.8	5.3	90	70	30	17	61	71.3	10.7	97	85.5	2.8	107	27.2	27.5	110
SLM	41	35	100	35	6.5	5.2	110	90	23	17	58	71.1	10.7	97	84.9	2.7	106	26.0	28.4	116
SLM	41	35	98	33	6.9	4.9	100	70	15	15	57	71.3	9.7	94	83.2	3.2	100	27.1	27.6	110
SCOTT																				
DELTAPINE 16																				
100 PERCENT																				
SLM	41	35	109	38	7.1	5.5	120	90	16	13	59	73.1	9.5	97	83.9	2.5	105	26.8	27.5	110
SLM	41	35	106	39	6.9	5.9	100	80	24	19	66	71.2	10.1	96	85.0	2.7	106	26.5	27.7	112
SLM	41	36	108	39	7.4	5.9	110	90	15	21	59	73.1	9.2	96	83.6	2.6	104	27.3	27.3	109
ROLLING FORK																				
DELTAPINE 16																				
100 PERCENT																				
SLM	41	34	95	31	7.0	5.1	90	70	18	18	57	73.1	10.2	99	86.1	2.8	109	27.0	27.4	110
SLM	41	34	102	35	6.9	5.6	90	70	20	17	61	74.2	9.9	100	84.7	2.5	106	27.0	27.6	110
SLM	41	34	106	37	7.3	5.8	90	70	23	22	60	73.0	9.8	98	83.9	2.9	103	26.4	27.5	111

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer			Color of raw stock			Picker & Card waste		
Grade	Code	32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		G/tex	Pct.	Mpsi	Rdg.	Pct.	Visible waste		Total waste	Gray- ness	Yellow- ness	Composite color
					Name			Code							32d in.		
SOUTH CENTRAL																	
MISSISSIPPI																	
TRALAKE																	
100 PERCENT																	
DELTAPINE 16																	
SLM	41	35	1.14	44	4.4	80	23	7.5	1.4	1.8	1	2	102	4.5			
SLM	41	36	1.10	44	4.1	78	24	6.8	1.2	2.4	1	2	100	5.4			
SLM	41	35	1.14	43	4.7	78	23	7.1	1.3	2.1	2	2	97	5.1			
TRIBBETT																	
100 PERCENT																	
STONEVILLE 7A																	
SLM	41	35	1.12	42	4.9	84	23	4.8	1.5	2.6	2	3	99	6.2			
SLM	41	35	1.11	46	5.3	91	23	4.5	1.2	2.2	2	3	98	6.0			
SLM	41	35	1.12	44	4.7	79	24	7.1	1.8	2.7	2	2	99	5.3			
WATER VALLEY																	
99 PERCENT																	
DELTAPINE 16																	
SLM	41	35	1.06	43	4.2	79	21	5.9	1.5	2.2	2	3	99	5.4			
SLM	41	35	1.11	44	4.6	78	21	7.8	1.7	2.6	2	3	100	5.2			
SLM	41	34	1.10	43	4.5	79	21	7.0	1.3	2.0	1	2	102	5.5			
MISSOURI																	
BELL CITY																	
100 PERCENT																	
DELTAPINE 45A																	
SLM	41	35	1.06	45	4.4	75	24	6.6	1.1	1.9	2	3	100	5.6			
SLM	41	35	1.07	46	4.5	80	22	6.6	1.5	2.4	2	3	100	5.2			
SLM	41	34	1.07	46	4.2	80	22	6.9	1.1	1.9	1	3	102	5.6			
CARDWELL																	
75 PERCENT																	
DELTAPINE 16																	
SLM	41	35	1.14	45	4.4	81	21	6.3	2.8	3.7	1	3	103	5.4			
SLM	41	36	1.11	44	4.2	81	21	6.5	2.5	3.4	2	3	100	5.0			
SLM	41	35	1.13	43	4.1	81	23	6.4	1.5	2.7	2	2	100	5.6			
SLM	41	34	1.10	43	4.1	79	22	6.6	2.0	2.6	2	3	100	6.3			
SENATH																	
100 PERCENT																	
AUBURN M																	
SLM	41	35	1.12	46	3.9	79	22	6.6	1.5	1.7	1	3	102	5.1			
SLM	41	36	1.11	44	4.0	80	21	6.4	1.2	2.2	2	3	99	5.0			
SLM	41	35	1.06	43	3.8	77	22	6.1	1.8	2.9	2	3	98	5.8			
SIKESTON																	
90 PERCENT																	
STONEVILLE 213																	
SLM	41	35	1.05	43	4.1	75	21	6.2	1.1	2.1	1	3	101	4.8			
SLM	41	35	1.07	44	4.1	77	21	7.4	1.4	2.4	1	3	101	5.3			
SLM	41	34	1.07	46	4.0	79	21	6.9	1.1	2.2	2	3	99	5.3			

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

-53-

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn Imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn		Color-22s blechd. yarn		Color - 22s dyed yarn					
Grade	Code	32d In.	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Pct.	Index	22s or 27 tex	50s or 12 tex		Index	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
SOUTH CENTRAL																					
MISSISSIPPI																					
TRALAKE																					
100 PERCENT																					
DELTA PINE 16																					
SLM	41	35	113	41	7.2	5.8		110	90	11	9	71	73.0	9.6	97	84.3	2.7	105	25.7	28.1	115
SLM	41	36	108	39	7.2	5.4		100	90	12	14	67	71.4	9.5	94	84.9	2.4	107	26.2	27.5	112
SLM	41	35	108	39	7.1	5.7		120	90	12	10	70	70.6	9.4	92	83.4	2.9	102	26.7	27.6	111
TRIIBETT																					
STONEVILLE 7A																					
SLM	41	35	94	31	5.7	4.2		90	70	22	18	54	71.0	10.2	95	83.4	2.7	103	27.5	27.3	108
SLM	41	35	98	32	5.2	3.9		110	90	20	17	59	69.8	10.3	93	83.3	2.6	103	25.2	28.7	118
SLM	41	35	109	39	6.8	5.4		100	80	30	19	62	70.2	9.9	93	84.2	2.3	106	26.7	27.8	112
WATER VALLEY																					
DELTA PINE 16																					
SLM	41	35	95	31	6.5	5.1		110	90	12	9	55	69.5	10.8	94	85.0	2.8	106	26.0	27.6	112
SLM	41	35	100	36	7.0	5.5		120	100	13	13	65	72.5	10.4	98	86.5	2.4	111	26.0	28.4	116
SLM	41	34	96	33	6.9	5.3		110	80	14	10	62	72.2	9.8	96	85.1	2.9	106	27.1	27.5	110
MISSOURI																					
BELL CITY																					
DELTA PINE 45A																					
SLM	41	35	101	34	6.9	5.2		110	90	19	19	58	69.0	10.9	94	85.2	2.9	106	25.8	28.1	115
SLM	41	35	106	38	6.8	5.3		120	90	19	20	60	70.0	10.5	94	85.2	3.2	105	26.5	27.4	111
SLM	41	34	100	35	7.0	5.3		100	80	20	17	59	70.9	10.2	95	84.7	3.1	104	26.6	27.3	110
CARDWELL																					
DELTA PINE 16																					
SLM	41	35	116	42	7.4	5.9		100	80	19	13	74	72.9	10.3	99	84.6	2.7	105	25.1	27.3	113
SLM	41	36	106	36	7.1	5.3		120	90	11	8	62	70.6	10.3	95	84.5	2.8	105	26.6	27.7	112
SLM	41	35	102	37	6.7	5.4		110	90	19	17	63	69.6	10.1	92	84.9	2.6	107	26.5	27.7	112
SLM	41	34	102	35	7.0	5.3		100	90	18	14	60	69.4	10.4	93	85.0	3.7	102	26.6	27.5	111
SENATH																					
AU8URN M																					
100 PERCENT																					
SLM	41	35	112	41	7.0	5.7		120	90	24	18	71	70.7	10.5	96	84.8	2.8	106	25.2	28.1	116
SLM	41	36	107	37	7.2	5.4		120	90	14	10	66	68.9	10.9	93	83.9	2.9	103	26.7	27.5	111
SLM	41	35	97	34	6.8	5.3		110	90	16	13	57	69.1	10.1	91	84.2	2.9	104	26.7	27.0	109
SIKESTON																					
STONEVILLE 213																					
90 PERCENT																					
SLM	41	35	99	34	6.8	5.5		110	90	13	11	61	70.7	10.5	96	85.3	2.8	107	26.4	28.0	113
SLM	41	35	106	37	7.5	5.5		110	90	17	18	63	69.7	10.7	94	85.9	3.2	107	25.5	27.8	114
SLM	41	34	100	34	7.3	5.5		100	80	18	16	59	70.2	10.2	94	85.6	3.1	106	25.9	27.6	113

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"		Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple 32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage	C/tex	Pct.	Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
TENNESSEE														
BRADEN														
DELTA PINE 16														
SLM	41	35	1.11	44	78	23	7.0	2.4	3.4	3.4	1	3	101	5.8
SLM	41	34	1.10	45	79	21	7.5	2.1	3.1	3.1	1	3	101	5.7
SLM	41	34	1.06	43	78	22	6.8	1.9	2.7	2.7	1	2	103	6.1
CORDOVA														
STONEVILLE 213														
SLM	41	35	1.07	45	78	19	6.4	2.5	3.5	3.5	2	3	98	6.2
SLM	41	34	1.07	44	77	20	6.4	1.9	2.8	2.8	2	3	100	5.9
LM	51	34	1.05	45	80	21	6.5	2.1	2.7	2.7	1	2	101	6.4
GADSDEN														
DELTA PINE 16														
SLM	41	35	1.12	45	82	21	7.6	1.6	2.6	2.6	2	3	98	4.7
SLM	41	35	1.09	45	79	21	7.8	2.1	3.3	3.3	1	2	101	5.8
LM LT SP 32	32	34	1.07	44	78	21	7.3	0.8	1.3	1.3	1	3	101	5.6
MCKENZIE														
DIXIE KING II														
85 PERCENT														
SLM	41	33	1.00	45	78	20	5.6	2.0	2.8	2.8	2	3	97	6.3
SLM LT SP 42	42	33	1.01	46	78	20	6.4	1.4	2.0	2.0	2	3	97	6.7
SLM LT SP 42	42	33	1.02	46	78	21	6.2	1.8	2.6	2.6	2	3	98	6.8
MILLINGTON														
REX SMOOTH LEAF														
90 PERCENT														
LM	51	34	1.07	44	80	20	5.7	3.3	4.6	4.6	3	3	95	7.4
LM	51	34	1.07	45	79	20	6.0	3.3	4.1	4.1	3	3	95	7.5
LM	51	34	1.05	46	77	22	6.0	3.8	4.8	4.8	2	2	97	8.3
SOUTH WEST														
SOUTH TEXAS														
ALAMO														
STONEVILLE 213														
87 PERCENT														
SLM	41	33	1.06	46	84	22	6.4	1.7	2.4	2.4	1	3	101	5.0
SLM	41	34	1.06	46	80	21	6.3	1.8	3.0	3.0	2	4	99	5.5
SLM	41	34	1.11	44	81	22	6.2	1.9	3.0	3.0	3	3	95	5.4
BISHOP														
STONEVILLE 7A														
90 PERCENT														
LM LT SP 52	52	33	1.08	44	87	21	5.3	2.1	3.4	3.4	5	3	82	6.1
LM LT SP 52	52	32	1.01	46	88	22	5.3	1.8	3.3	3.3	6	3	80	7.0
LM LT SP 52	52	32	0.99	43	77	20	6.5	2.8	4.1	4.1	5	4	91	7.7

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn									
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Pct.	Pct.	22s or 27 tex	50s or 12 tex		Index	Index	No.	Rd	+b	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite	Index	Rd	-b	Index
Grade	Staple	Code	32d In.	Lbs.	Lbs.																						
SOUTH CENTRAL																											
TENNESSEE																											
BRADEN																											
98 PERCENT																											
DELTAPINE 16																											
SLM		41	35	106	37	7.3	5.3	120	90	16	14	62	71.0	10.4	96	84.3	2.7	105	26.4	27.5	111						
SLM		41	34	105	38	7.0	5.6	110	90	17	17	63	71.0	10.1	95	85.2	2.5	108	25.7	28.1	115						
SLM		41	34	101	35	6.8	5.8	100	90	13	11	61	72.2	9.6	96	83.6	3.2	101	27.6	26.9	106						
CORDOVA																											
95 PERCENT																											
STONEVILLE 213																											
SLM		41	35	95	32	6.2	4.8	110	90	17	16	58	70.9	10.7	97	86.0	2.7	109	25.8	28.2	115						
SLM		41	34	92	31	6.3	5.1	100	90	13	12	60	71.0	10.1	95	84.8	3.2	104	27.6	26.9	106						
LM		51	34	90	29	6.4	4.7	120	90	20	14	56	69.5	10.3	93	83.5	3.0	102	26.8	27.9	112						
GADSDEN																											
95 PERCENT																											
DELTAPINE 16																											
SLM		41	35	107	38	7.5	5.6	110	90	14	12	59	69.3	10.8	94	83.8	2.9	103	24.8	28.2	117						
SLM		41	35	107	37	7.0	5.8	120	90	15	16	66	71.6	10.2	97	85.6	2.5	109	25.1	28.5	118						
M LT SP 32 34		95	32	6.8	5.3			110	90	7	7	59	70.7	10.2	95	83.9	3.0	103	26.3	27.7	112						
MCKENZIE																											
DIXIE KING II																											
85 PERCENT																											
SLM		41	33	95	31	6.3	4.8	110	90	18	15	56	70.1	10.7	95	85.2	2.7	107	25.3	28.7	118						
SLM LT SP 42 33		86	26	6.0	4.7			110	90	20	15	53	66.8	11.3	90	85.8	3.1	107	25.8	27.7	113						
SLM LT SP 42 33		89	29	6.6	4.6			110	90	21	18	51	67.5	10.4	89	83.5	3.2	101	25.9	28.1	115						
MILLINGTON																											
REX SMOOTH LEAF																											
90 PERCENT																											
LM		51	34	94	31	6.4	4.7	130	100	20	13	61	68.1	10.9	92	84.6	2.9	105	26.5	27.3	110						
LM		51	34	94	32	6.5	5.0	130	100	16	12	62	68.9	10.8	93	84.7	2.9	105	25.5	27.9	115						
LM		51	34	92	30	6.5	4.8	120	90	13	9	59	70.7	10.1	94	83.9	2.9	103	27.0	27.5	110						
SOUTH WEST																											
SOUTH TEXAS																											
ALAMO																											
87 PERCENT																											
STONEVILLE 213																											
SLM		41	33	102	34	5.6	4.0	120	90	18	14	59	70.9	10.7	97	84.7	3.1	104	25.3	28.4	117						
SLM		41	34	100	35	5.5	4.3	120	90	18	12	63	70.9	11.0	98	83.4	3.1	101	25.4	28.4	117						
SLM		41	34	100	36	5.0	4.4	120	90	20	15	61	69.3	10.6	93	84.2	3.0	103	27.2	27.1	108						
BISHOP																											
90 PERCENT																											
STONEVILLE 7A																											
LM LT SP 52 33		98	31	5.0	3.4			120	90	22	15	57	59.0	9.9	74	82.1	3.4	97	27.7	26.5	105						
LM LT SP 52 32		96	30	5.0	3.4			120	100	21	17	54	60.7	10.5	77	82.3	3.5	97	27.6	26.1	103						
LM LT SP 52 32		84	24	4.9	2.9			120	90	24	19	43	61.2	11.2	79	43.3	3.4	100	28.3	25.6	109						

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	Picker & Card waste
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
SOUTH TEXAS													
CORPUS CHRISTI													
STONEVILLE 213													
M LT SP 32	33	1.04	46		4.5	84	22	6.6	1.2	2.1	2	100	4.7
SLM LT SP 42	32	1.02	45		4.8	89	22	4.9	1.3	2.5	4	88	5.5
LM LT SP 52	32	1.03	44		4.7	82	22	6.0	3.1	4.3	5	82	6.1
DANEVANG													
DELTAPINE 16													
85 PERCENT													
SLM LT SP 42	34	1.10	45		3.8	84	23	6.3	1.6	2.3	4	38	4.9
SLM 41	34	1.07	45		4.5	92	22	5.1	1.4	2.6	2	97	5.5
SLM 41	33	1.06	46		4.7	84	22	6.5	1.1	1.9	3	96	5.1
HARLINGEN													
STONEVILLE 7A													
93 PERCENT													
SLM 41	34	1.04	46		4.6	96	23	5.1	1.7	3.0	2	97	4.7
SLM 41	33	1.05	47		4.4	89	22	6.0	1.6	2.4	2	99	5.0
LM 51	34	1.06	47		4.8	80	23	7.4	2.9	4.0	4	86	5.6
SAN JUAN													
TPSA 110													
82 PERCENT													
SLM 41	34	1.06	45		4.8	92	22	5.0	1.6	3.0	2	98	5.2
SLM 41	33	1.04	44		4.5	90	21	5.0	2.0	3.2	2	99	5.6
LM LT SP 52	34	1.12	44		4.3	86	21	5.1	3.0	3.9	4	85	6.0
WOODSBORO													
LANKART 3840													
97 PERCENT													
M 31	31	0.97	46		5.4	94	21	4.8	1.9	2.8	2	99	5.8
SLM LT SP 42	32	1.03	46		4.8	91	22	6.0	2.0	3.0	4	90	5.7
CENTRAL TEXAS													
CROCKETT													
STONEVILLE 7A													
70 PERCENT													
SLM 41	35	1.12	45		5.5	86	23	5.9	1.7	2.5	3	96	4.6
SLM 41	35	1.16	45		4.7	89	24	5.9	1.6	2.2	3	93	5.0
SLM 41	34	1.09	44		4.6	89	22	5.8	1.8	2.9	2	97	5.2
PEARSALL													
DELTAPINE 16													
100 PERCENT													
SLM 41	34	1.12	42		4.2	78	21	7.2	1.6	2.7	2	99	5.3
SLM 41	34	1.14	42		3.3	82	23	7.6	1.6	2.9	2	98	5.5
SLM LT SP 42	34	1.10	43		4.2	78	21	7.7	1.9	3.6	3	94	6.2

Gate, Production Area, Chronological sampling, and Classification				Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn				Color - 22s blchd. yarn				Color - 22s dyed yarn			
				22s or 27 tex	50s or 12 tex	22s or 50s or 12 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Rd	+b	Index	Reflectance	Yellow-ness	Composite	Reflectance	Yellow-ness	Composite	Reflectance	Blue-ness	Composite
Grade	Code	3rd In.	Staple	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.		Rd	+b	Index	Rd	+b	Index	Rd	+b	Index	Rd	+b	Index
SOUTH WEST																								
SOUTH TEXAS																								
CORPUS CHRISTI																								
91 PERCENT																								
M LT SP 32 33 107 38 5.7 4.3 130 100 14 11 62 68.2 12.0 96 84.6 3.1 104 25.0 27.7 115																								
SLM LT SP 42 32 99 32 5.5 3.7 130 100 14 9 57 64.3 11.0 85 82.6 3.2 99 26.7 27.2 109																								
LM LT SP 52 32 97 31 5.2 3.5 120 100 16 11 54 59.4 10.0 75 81.7 3.6 95 27.9 25.3 99																								
DANEVANG																								
85 PERCENT																								
SLM LT SP 42 34 112 40 5.8 4.0 120 90 22 15 66 64.9 10.8 85 84.5 3.2 103 26.0 27.6 112																								
SLM 41 34 111 38 6.1 4.3 120 100 18 12 66 69.2 11.2 95 84.7 2.9 105 26.3 27.0 109																								
SLM 41 33 101 31 5.8 3.7 120 100 17 15 56 69.8 10.7 95 83.0 2.7 102 27.3 27.5 109																								
HARLINGEN																								
93 PERCENT																								
SLM 41 34 105 31 5.0 3.3 130 100 16 13 57 70.7 10.3 95 83.0 3.2 100 26.8 27.2 109																								
SLM 41 33 100 33 5.2 3.7 120 100 14 11 59 71.4 10.5 97 84.0 3.1 102 26.5 28.1 113																								
LM 51 34 107 37 5.9 4.4 130 100 21 12 61 65.0 9.6 83 82.8 2.9 100 27.5 26.7 106																								
SAN JUAN																								
82 PERCENT																								
SLM 41 34 104 34 5.1 3.5 120 100 20 16 61 70.0 10.7 95 83.6 3.2 101 26.4 27.0 109																								
SLM 41 33 100 31 5.2 3.3 120 90 18 14 62 72.9 10.5 99 84.0 3.0 103 26.4 27.8 112																								
LM LT SP 52 34 107 37 5.6 3.9 130 90 26 14 64 67.2 11.0 90 82.9 3.3 99 28.1 26.0 102																								
WOODSBORO																								
97 PERCENT																								
M 31 31 94 24 5.0 2.8 120 100 14 13 40 69.5 11.9 98 83.7 3.0 102 26.7 28.1 113																								
SLM LT SP 42 32 98 29 5.2 3.5 130 100 20 13 46 67.1 11.5 92 83.2 2.9 101 28.0 27.1 106																								
CENTRAL TEXAS																								
CROCKETT																								
70 PERCENT																								
SLM 41 35 111 36 5.5 3.7 130 100 12 8 60 69.4 11.2 96 83.0 2.8 101 26.6 27.3 110																								
SLM 41 35 113 40 5.7 4.1 120 100 15 9 63 68.3 11.0 93 84.0 2.7 104 28.4 26.9 105																								
SLM 41 34 105 35 5.4 4.1 120 100 14 11 56 67.9 10.4 89 83.9 2.8 103 28.4 26.3 102																								
PEARSALL																								
100 PERCENT																								
SLM 41 34 103 36 7.0 5.5 110 90 19 14 64 71.5 10.5 97 85.5 3.0 106 26.8 27.8 112																								
SLM 41 34 118 42 7.2 5.6 100 80 30 28 71 71.3 10.5 97 85.4 2.7 107 26.6 27.4 110																								
SLM LT SP 42 34 101 35 6.2 4.6 110 90 28 24 63 66.9 10.6 88 84.2 3.0 103 26.8 27.7 111																								

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns. 50s or 12 tex	Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn						
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index			No.	No.	Rd	+b	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
Grade	Staple	22s or 27 tex	50s or 12 tex	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite				
Name	Code	32d In.	Lbs.	Lbs.																Index		
SOUTH WEST																						
CENTRAL TEXAS																						
SUGARLAND																						
100 PERCENT																						
DELTA PINE 16																						
SLM LT SP 42 34 107 34 5.7 3.9 130 100 16 11 58 65.3 11.3 87 84.6 3.1 104 26.6 27.0 109																						
NORTHWEST TEXAS																						
LUBBOCK																						
75 PERCENT																						
PAYMASTER III																						
SLM LT SP 42 31 93 30 5.9 4.1 110 80 58 35 49 68.2 11.0 92 83.8 4.2 98 27.8 25.9 102																						
1/LM LT SP 52 30 96 31 6.6 4.6 100 80 64 48 45 64.7 11.4 86 84.8 3.5 103 28.7 25.9 100																						
1/LM LT SP 52 30 96 30 6.4 4.5 80 60 83 64 37 64.3 11.5 86 83.3 3.9 98 29.1 25.8 99																						
O'DONNELL																						
80 PERCENT																						
PAYMASTER III																						
1/LM LT SP 52 31 92 27 5.5 3.4 120 90 34 26 48 67.6 11.2 92 85.2 3.5 104 28.1 26.4 103																						
1/LM LT SP 52 31 88 26 6.4 4.2 110 80 46 35 40 64.6 11.9 87 84.7 3.6 102 27.6 26.4 104																						
1/LM LT SP 52 30 97 32* 6.8 5.8 110 80 51 39 40 66.9 11.5 91 84.7 3.5 102 28.5 26.3 102																						
RAYLAND																						
100 PERCENT																						
LOCKETT 4789 A																						
SLM LT SP 42 34 109 37 5.8 4.3 120 90 29 18 62 66.0 10.7 87 83.3 3.8 98 27.1 26.7 107																						
SLM LT SP 42 33 107 35 6.5 4.1 120 90 29 21 56 65.7 10.7 86 83.2 3.9 97 27.5 26.8 106																						
SLM LT SP 42 34 108 36 5.8 4.2 120 90 27 20 58 66.3 11.0 88 82.8 3.6 98 27.4 27.1 108																						
ROPESVILLE																						
100 PERCENT																						
LOCKETT 4789 A																						
SLM LT SP 42 32 101 34 6.9 4.9 90 70 77 56 52 66.6 11.2 89 85.5 4.0 102 28.2 25.9 101																						
SLM LT SP 42 32 100 35 7.1 5.2 90 70 67 50 52 66.9 11.1 90 83.8 3.6 100 27.6 26.4 104																						
SLM SP 43 30 98 31 7.3 5.4 80 60 112 79 46 62.6 12.3 85 84.3 3.7 101 28.6 25.6 99																						
SEMINOLE																						
80 PERCENT																						
PAYMASTER III																						
SLM LT SP 42 30 95 27 6.0 3.9 110 90 31 26 44 67.0 11.6 92 85.0 3.5 103 27.5 26.4 105																						
1/LM LT SP 52 30 103 36 6.4 4.6 100 70 69 50 46 64.9 12.2 89 84.2 3.7 101 27.6 26.0 103																						
LM SP 53 30 99 33 7.3 5.4 60 60 146 111 43 59.5 12.9 80 85.5 3.9 103 28.8 25.4 98																						
SLATON																						
COKER 4104																						
100 PERCENT																						
LM 51 34 109 38 6.6 4.4 100 80 46 30 59 70.5 10.9 97 82.9 3.7 97 28.5 26.1 101																						
1/LM LT SP 52 33 103 36 6.9 4.8 120 80 46 37 56 68.2 10.8 92 83.3 3.6 99 28.6 25.7 100																						
1/LM LT SP 52 33 105 35 7.0 5.0 90 80 67 41 50 66.5 11.4 90 84.9 3.5 103 28.3 25.6 100																						

1/reduced from 42 because of bark

2/reduced from 43 because of bark

* spun 44s, would not spin 50s

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	32d in.	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name			In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	
SOUTH WEST														
NORTHWEST TEXAS														
VERNON														
LOCKETT 8XL														
100 PERCENT														
LM	51	34	1.07	45	4.1	86	23	6.4	3.4	4.7	4	3	89	7.7
SLM LT SP 42	34	34	1.07	47	3.8	86	23	6.7	2.7	3.8	3	3	91	6.1
SLM LT SP 42	34	34	1.06	45	3.9	85	23	6.9	2.4	3.8	3	3	92	5.3
WEST														
ARIZONA														
CASA GRANDE														
DELTAPINE 16														
100 PERCENT														
M	31	35	1.10	45	4.9	85	23	6.2	1.4	2.1	1	3	102	4.4
SLM	41	35	1.12	45	4.8	81	22	6.7	1.6	2.3	1	2	101	5.4
M LT SP 32	35	35	1.14	45	4.5	83	22	7.2	1.4	2.7	2	4	100	5.3
PARKER														
DELTAPINE 16														
90 PERCENT														
M	31	35	1.09	44	4.5	88	24	6.2	1.8	2.9	1	3	101	5.7
M	31	34	1.08	43	4.4	86	24	6.4	1.4	2.5	1	3	102	6.0
M LT SP 32	34	34	1.10	42	4.0	83	22	6.9	1.6	3.4	2	4	100	6.3
QUEEN CREEK														
DELTAPINE 16														
99 PERCENT														
SLM	41	35	1.08	43	4.6	83	22	7.0	1.5	2.5	2	2	97	5.0
SLM	41	35	1.13	44	4.4	81	22	7.0	1.9	2.9	2	2	99	5.2
M LT SP 32	34	34	1.11	42	4.3	81	22	8.0	1.2	2.9	2	4	98	5.3
SAFFORD														
DELTAPINE 16														
100 PERCENT *														
M LT SP 32	36	36	1.16	45	4.3	79	23	8.0	0.9	1.8	2	4	100	4.2
M	31	35	1.14	44	3.6	78	23	8.7	1.0	2.0	1	2	103	4.6
M LT SP 32	35	35	1.09	42	3.4	79	22	7.3	2.0	3.5	2	4	99	6.4
CALIFORNIA														
ARVIN														
ACALA 4-42														
100 PERCENT														
M	31	35	1.11	46	4.4	98	27	5.7	1.5	2.1	1	3	102	4.6
SLM	41	35	1.09	46	4.4	96	27	6.1	2.4	3.4	1	2	100	5.5
SLM	41	36	1.13	46	4.3	95	26	6.3	2.3	3.4	1	3	101	5.3
BAKERSFIELD														
ACALA SJ-1														
100 PERCENT														
M	31	35	1.10	45	4.4	103	27	5.0	1.2	1.8	1	3	101	4.7
SLM	41	36	1.15	45	4.4	96	27	5.6	1.3	2.2	2	2	100	5.0
M	31	36	1.14	47	4.4	96	27	5.9	1.1	2.0	2	3	100	4.0

* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

-61-

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn			
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
Grade	Staple																			
Name	Code	32d In.	Lbs.	Pct.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
NORTHWEST TEXAS																				
VERNON																				
LOCKETT BXL																				
LM	51	34	113	3.9	6.2	4.4	120	90	29	17	64	66.2	10.3	86	83.7	3.6	100	27.9	26.9	106
SLM LT SP	42	34	110	3.8	6.2	4.5	110	90	24	18	62	66.6	10.8	88	82.7	3.5	98	27.5	27.0	107
SLM LT SP	42	34	108	3.9	5.9	4.2	120	90	24	18	58	67.4	10.7	89	83.4	3.3	100	27.3	26.8	107
100 PERCENT																				
WEST																				
ARIZONA																				
CASA GRANDE																				
DELTAPINE 16																				
M	31	35	108	3.7	5.8	4.4	120	100	23	15	61	72.8	10.4	99	84.1	2.7	104	27.2	26.9	107
SLM	41	35	106	3.6	6.0	4.3	120	90	22	15	59	73.3	9.7	98	84.7	2.5	106	28.0	26.8	105
M LT SP	32	35	111	3.9	6.0	4.2	120	100	20	14	62	69.0	11.6	96	83.5	2.7	103	27.3	27.0	107
90 PERCENT																				
PARKER																				
DELTAPINE 16																				
M	31	35	98	3.1	5.5	3.7	110	90	27	21	49	73.3	10.6	100	84.2	3.1	103	28.7	26.3	102
M	31	34	98	3.0	5.2	3.6	120	90	28	22	53	73.2	10.4	100	83.4	3.1	101	27.1	27.7	111
M LT SP	32	34	97	3.0	5.5	3.4	110	80	26	23	52	72.5	10.9	100	82.9	2.9	101	28.1	26.7	105
99 PERCENT																				
QUEEN CREEK																				
DELTAPINE 16																				
SLM	41	35	103	3.5	5.9	4.3	120	100	18	12	59	72.1	9.5	95	84.7	3.0	104	28.6	26.2	102
SLM	41	35	111	3.9	6.4	4.6	130	100	24	16	61	73.5	10.1	99	84.0	2.7	104	27.8	26.8	106
M LT SP	32	34	104	3.5	6.2	4.3	120	90	17	13	58	68.5	12.0	97	83.5	2.9	102	27.6	26.8	106
100 PERCENT *																				
SAFFORD																				
DELTAPINE 16																				
M LT SP	32	36	116	4.1	7.1	5.7	120	100	16	13	72	71.0	10.9	98	85.5	2.9	107	25.2	27.3	113
M	31	35	105	3.7	6.5	4.7	120	90	18	15	65	73.8	10.3	100	85.2	2.7	107	26.4	27.0	109
M LT SP	32	35	104	3.3	6.6	4.9	120	90	44	32	61	68.9	11.3	95	83.8	3.2	102	28.2	26.7	104
CALIFORNIA																				
ARVIN																				
ACALA 4-42																				
M	31	35	131	4.9	6.0	4.7	130	100	12	11	75	72.0	10.6	98	84.8	2.8	106	25.3	28.1	116
SLM	41	35	139	5.2	6.2	4.6	120	90	29	21	79	72.4	10.6	99	84.7	2.9	105	25.7	27.4	112
SLM	41	36	134	5.0	6.0	4.2	120	100	26	17	76	71.5	10.7	98	83.2	2.7	102	25.3	27.1	112
100 PERCENT																				
BAKERSFIELD																				
ACALA SJ-1																				
M	31	35	125	4.5	5.4	4.2	120	90	21	18	68	70.1	11.6	98	84.5	3.4	102	25.9	27.6	113
SLM	41	36	130	4.9	5.8	4.4	120	90	24	21	73	71.3	10.7	97	83.5	3.1	101	26.1	26.5	108
M	31	36	123	4.6	5.1	3.9	120	90	21	15	72	69.6	11.2	96	81.6	3.2	96	26.1	27.0	110

* 100 percent selected for tests, less than 100 percent in the area

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Code	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name		32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
WEST CALIFORNIA													
BRAWLEY													
DELTAPINE 16													
100 PERCENT													
M	31	34	1.05	43	4.6	89	24	5.6	1.3	2.2	1	103	5.5
M	31	34	1.07	45	4.4	88	22	5.4	1.5	2.7	1	103	5.1
SLM	41	34	1.00	43	4.5	89	23	6.1	1.6	2.6	2	99	5.9
CHOWCHILLA													
ACALA SJ-1													
100 PERCENT													
M	31	36	1.16	46	4.0	98	28	5.2	1.2	2.0	1	102	4.7
SLM	41	36	1.15	46	3.5	100	28	5.7	2.2	3.5	2	100	5.9
SLM	41	36	1.18	46	4.0	99	28	6.1	1.2	2.4	2	99	5.7
CORCORAN													
ACALA SJ-1													
100 PERCENT													
M	31	36	1.15	46	4.6	101	28	5.7	1.5	2.2	1	101	4.7
M	31	36	1.13	46	4.5	98	28	5.8	1.1	2.2	1	102	4.5
SLM	41	36	1.15	46	3.7	102	28	6.0	1.8	2.7	2	97	6.4
DOS PALOS													
ACALA SJ-1													
100 PERCENT													
M	31	36	1.13	45	4.0	100	28	4.9	1.3	2.1	1	104	4.2
SLM	41	36	1.14	47	3.7	102	27	5.6	2.2	3.4	2	99	5.9
M	31	36	1.14	47	3.9	99	29	6.2	1.3	2.5	1	102	5.3
EL CENTRO													
STONEVILLE 213													
100 PERCENT *													
M	31	34	1.04	44	4.4	93	22	4.8	1.8	2.8	1	103	5.7
SLM	41	34	1.05	42	4.6	90	22	5.4	2.0	3.2	1	100	5.9
SLM	41	34	1.05	42	4.6	88	23	5.1	1.6	2.5	2	99	5.6
HURON													
ACALA SJ-1													
100 PERCENT													
M	31	36	1.11	46	4.6	102	28	4.8	1.2	2.4	2	101	4.8
SLM+	40	36	1.14	46	4.4	98	27	5.9	1.9	3.2	2	98	5.4
SLM	41	36	1.15	44	3.9	97	26	6.1	3.1	4.8	3	92	7.0
KERMAN													
ACALA SJ-1													
100 PERCENT													
SLM+	40	36	1.14	46	4.4	100	27	5.2	1.5	2.1	2	99	4.4
SLM	41	36	1.17	48	4.1	98	26	6.1	2.2	3.2	2	99	5.3
SLM	41	36	1.14	47	3.9	104	29	6.0	1.3	2.7	2	98	5.2

* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification	Grade	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn		Color-22s blchd. yarn		Color - 22s dyed yarn	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflect- ance	Yellow- ness	Reflect- ance	Yellow- ness	Reflect- ance	Blue- ness
Name	Code	32d In.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	+b	Index	-b
WEST																
CALIFORNIA																
BRAWLEY																
DELTAPINE 16																
100 PERCENT																
M	31 34	98	29	5.0	3.3	120	90	22	18	48	74.8	9.8	100	84.1	2.6	105
M	31 34	109	35	5.7	3.7	120	100	19	14	58	74.1	10.2	100	84.8	2.5	107
SLM	41 34	95	28	4.8	3.2	120	80	36	24	44	71.6	10.4	97	83.4	2.8	102
CHONCHILLA																
ACALA SJ-1																
100 PERCENT																
M	31 36	143	53	6.0	4.3	120	100	20	14	86	71.0	10.7	97	83.5	3.3	100
SLM	41 36	139	53	5.9	4.4	120	90	31	18	89	70.1	10.6	95	83.0	3.4	99
SLM	41 36	137	52	5.7	4.3	110	90	26	20	83	68.3	10.7	91	81.8	3.5	96
CORCORAN																
ACALA SJ-1																
100 PERCENT																
M	31 36	129	48	5.7	4.3	120	90	27	19	73	71.0	10.7	97	84.0	3.2	102
M	31 36	132	48	5.6	4.1	110	90	24	18	83	72.4	10.4	98	83.7	2.9	103
SLM	41 36	132	50	5.7	4.3	110	80	36	25	82	67.9	11.2	92	83.2	3.5	99
DOS PALOS																
ACALA SJ-1																
100 PERCENT																
M	31 36	138	52	5.7	4.3	120	90	27	18	80	71.9	11.0	99	84.0	2.9	103
SLM	41 36	136	51	5.1	4.1	110	80	32	27	82	70.0	10.6	95	83.2	3.1	101
M	31 36	136	52	5.8	4.3	130	100	24	13	79	69.5	11.3	96	84.0	3.4	101
EL CENTRO																
STONEVILLE 213																
100 PERCENT *																
M	31 34	104	31	4.9	3.4	120	90	24	18	49	72.2	10.8	99	83.9	3.0	103
SLM	41 34	102	32	5.0	3.4	120	100	22	16	51	72.2	10.2	97	83.8	3.0	102
SLM	41 34	101	31	4.9	3.0	120	100	20	15	45	70.0	9.8	92	82.2	3.0	99
HURON																
ACALA SJ-1																
100 PERCENT																
M	31 36	131	50	5.2	3.8	130	100	18	11	75	71.6	11.1	99	83.7	3.0	102
SLM+	40 36	130	49	5.5	4.3	120	100	19	14	80	70.8	11.1	98	82.6	3.5	98
SLM	41 36	121	45	4.9	3.8	110	90	32	24	77	64.4	11.3	85	82.0	3.6	96
KERNAN																
ACALA SJ-1																
100 PERCENT																
SLM+	40 36	137	52	5.8	4.4	120	100	18	12	79	71.5	10.4	97	83.5	2.7	103
SLM	41 36	139	53	5.7	4.3	130	100	17	11	90	68.8	10.6	92	82.6	3.1	99
SLM	41 36	134	51	5.8	4.2	120	100	21	14	82	68.1	10.6	91	80.9	2.9	96

* 100 percent selected for tests, less than 100 percent in the area

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Fiber strength		Shirley Analyzer		Color of raw stock			Picker & Card waste		
Grade	Code	32d in.	2.5% span length	50/2.5 unif.	Micro-naire	Zero Gage	1/8" Gage	G/tex	Elongation 1/8"	Visible waste	Total waste		Gray-ness	Yellow-ness	Composite color
Name			In.	Pct.	Rdg.	Mpsi			Pct.	Pct.	No.	No.	Index	Pct.
WEST CALIFORNIA LOST HILLS														
ACALA SJ-1														
M	31	36	1.16	45	4.5	93	27	5.8	1.4	2.2	1	3	103	4.5
M	31	36	1.18	45	3.9	94	27	5.9	1.8	2.9	0	0	0	5.0
M	31	36	1.14	45	4.2	95	27	6.0	1.1	2.2	1	3	103	4.9
SAN JOAQUIN														
ACALA 4-42														
SLM+	40	36	1.14	46	4.2	97	27	5.5	1.2	2.0	1	3	102	4.1
SLM	41	35	1.09	47	3.6	97	28	6.2	1.9	3.2	2	3	97	5.9
SLM	41	35	1.09	45	3.1	98	26	6.6	2.2	3.8	2	3	96	6.2
SHAFTER														
ACALA SJ-1														
SLM	41	36	1.19	47	3.9	104	27	5.6	1.7	2.6	2	3	99	5.6
M	31	36	1.17	46	4.1	100	29	5.8	1.0	1.9	1	3	103	4.7
M	31	36	1.18	46	4.1	95	27	6.0	1.5	2.3	1	3	103	4.5
STRAITFORD														
ACALA SJ-1														
M	31	35	1.10	47	4.6	104	28	5.2	1.2	1.6	1	3	102	4.3
SLM	41	36	1.16	45	4.3	97	29	5.9	1.1	2.3	2	2	99	4.9
SLM	41	36	1.14	46	4.3	101	28	5.5	2.6	3.8	1	3	101	5.9
WASCO														
ACALA SJ-1														
M	31	35	1.11	46	4.2	99	27	5.6	1.3	2.4	1	3	103	4.2
M	31	36	1.14	45	3.8	100	29	5.7	1.4	2.2	1	3	102	4.6
M	31	36	1.15	45	3.9	92	27	6.4	1.4	2.4	1	3	102	5.2
WEST TEXAS COYANOSA														
DELIAPINE 16														
100 PERCENT *														
SLM LT SP	42	35	1.10	43	3.9	81	21	5.9	3.8	4.8	4	4	90	6.7
LM	51	34	1.11	44	4.2	77	22	7.1	4.9	6.3	3	2	91	8.6
SLM LT SP	42	34	1.10	42	3.8	78	21	7.6	2.6	4.1	3	3	95	7.1
PECOS														
STONEVILLE 213														
100 PERCENT *														
SLM	41	35	1.10	44	4.6	77	21	7.2	2.1	3.4	3	4	95	5.9
SLM	41	35	1.08	44	3.9	75	22	6.6	0.9	1.7	2	3	93	4.7
SLM	41	34	1.03	44	3.7	80	21	7.2	1.4	2.4	2	3	99	5.1

* 100 percent selected for tests, less than 100 percent in the area

* 100 percent selected for tests, less than 100 percent in the area

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance			Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	Pct.	Pct.	Index	Index	22s or 27 tex	50s or 12 tex		50s or 12 tex	Rd	+b	Index	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Grade	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	+b	Index	
WEST CALIFORNIA LOST HILLS																					
ACALA SJ-1 100 PERCENT																					
M	31	36	130	48	6.1	4.6	130	100	20	12	71	73.3	11.0	102	84.6	2.9	105	25.2	27.4	113	
M	31	36	133	51	6.1	4.5	120	90	18	13	81	73.3	10.9	101	83.5	3.1	101	25.4	28.0	115	
M	31	36	125	47	5.7	4.3	130	100	20	15	77	72.8	10.8	100	84.2	2.8	104	27.4	28.0	111	
SAN JOAQUIN																					
ACALA 4-42 100 PERCENT *																					
SLM+	40	36	137	52	5.9	4.4	120	90	18	13	80	71.6	11.0	99	83.8	3.0	102	25.3	28.0	115	
SLM	41	35	131	49	5.8	4.3	110	80	31	21	74	67.5	10.8	90	82.0	3.1	98	25.2	27.3	113	
SLM	41	35	127	47	5.5	3.9	120	80	42	28	73	67.1	11.0	90	82.1	3.3	97	25.7	27.5	113	
SHAFTER																					
ACALA SJ-1 100 PERCENT																					
SLM	41	36	136	51	5.8	4.4	120	90	27	19	91	69.6	11.0	95	84.2	3.5	101	25.1	27.9	115	
M	31	36	136	52	6.1	4.5	120	90	18	12	83	71.8	10.7	98	83.8	3.4	101	26.3	26.9	109	
M	31	36	132	50	6.0	4.6	130	100	15	10	80	72.0	11.1	100	84.2	3.0	103	25.8	26.7	109	
STRATFORD																					
ACALA SJ-1 100 PERCENT																					
M	31	35	135	50	5.6	4.4	130	100	17	11	74	71.3	10.9	98	83.9	3.6	100	24.8	28.4	118	
SLM	41	36	137	52	5.7	4.5	130	90	22	16	82	70.9	10.7	97	83.2	3.3	100	25.1	28.1	116	
SLM	41	36	132	50	5.6	4.2	120	90	21	18	64	69.8	10.9	95	82.3	3.1	98	25.8	27.6	113	
WASCO																					
ACALA SJ-1 100 PERCENT																					
M	31	35	133	49	5.7	4.3	120	90	18	12	79	72.0	11.1	100	84.2	3.1	103	26.0	27.2	111	
M	31	36	134	51	5.8	4.5	120	90	19	15	81	71.7	11.0	99	84.0	3.1	102	26.1	27.3	111	
M	31	36	129	48	5.6	4.2	120	80	28	24	76	71.5	10.9	98	83.4	3.1	101	25.6	26.9	110	
WEST TEXAS COYANOSA																					
DELTAPINE 16 100 PERCENT *																					
SLM LT SP	42	35	98	33	5.9	4.4	110	90	42	31	54	68.0	11.6	94	84.6	3.3	103	27.8	26.2	103	
LM	51	34	103	36	6.5	4.7	120	90	31	19	57	71.3	10.7	97	83.8	3.0	102	28.6	26.1	101	
SLM LT SP	42	34	99	34	5.9	4.0	110	80	46	32	57	68.7	11.2	94	82.8	3.7	97	28.8	26.3	102	
PECOS																					
STONEVILLE 213 100 PERCENT *																					
SLM	41	35	106	37	6.7	5.0	120	90	26	19	64	67.5	11.6	93	84.7	3.6	102	27.4	26.7	106	
SLM	41	35	98	33	6.2	4.5	120	100	19	15	53	71.0	10.9	98	84.1	3.7	100	26.6	27.4	110	
SLM	41	34	99	32	5.8	3.9	120	100	23	17	54	71.7	11.1	99	81.8	3.4	96	27.0	27.0	108	

* 100 percent selected for tests, less than 100 percent in the area

* 100 percent selected for tests, less than 100 percent in the area

Table 1.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1971

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire		Fiber strength		Elon- gation 1/8"		Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		2.5% span length	50/(2.5 unif.	Rdg.		Zero Gage	1/8" Gage	Pct.		Visible waste	Total waste	Gray- ness	Yellow- ness	Index	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	Pct.	No.	No.	No.	Pct.
SOUTH EAST															
ALABAMA															
ORRVILLE															
COKER 310															
LM LT SP 52		36	1.16	43	4.6	84	22	5.7	3.4	4.6	4.6	4	4	87	3.2
LM 51		36	1.14	41	4.6	83	25	5.4	3.3	4.2	4.2	3	3	95	10.2
LM 51		36	1.18	43	4.2	81	23	5.8	3.9	4.9	4.9	3	2	95	10.2
LM 51		35	1.14	42	4.6	77	23	6.3	2.9	3.8	3.8	3	2	95	10.3
GEORGIA															
COMER															
COKER 310															
SLM 41		36	1.16	44	4.4	83	23	6.0	2.4	3.4	3.4	2	3	98	8.9
LM 51		35	1.17	45	4.3	78	22	6.4	2.3	3.5	3.5	4	3	85	9.1
LM 51		34	1.10	44	4.4	75	22	6.9	1.9	2.8	2.8	3	3	92	3.6
MADISON															
COKER 310															
SLM LT SP 42		35	1.14	44	4.8	77	22	6.1	2.3	3.3	3.3	2	3	96	9.5
SLM LT SP 42		35	1.12	44	4.6	78	23	6.5	3.8	5.0	5.0	3	3	92	9.3
LM 51		35	1.12	44	4.3	80	21	6.3	3.6	4.7	4.7	3	3	91	10.4
LM LT SP 52		34	1.09	43	4.6	78	21	6.3	2.6	3.2	3.2	4	3	87	10.4
NORTH CAROLINA															
FALLSTON															
COKER 310															
LM LT SP 52		36	1.13	41	4.1	76	19	6.5	2.1	3.0	3.0	4	3	85	9.6
SOUTH CAROLINA															
RIDGE SPRINGS															
COKER 310															
LM 51		36	1.18	42	3.6	84	23	6.9	4.2	4.9	4.9	3	3	95	10.0
SLM 41		36	1.15	42	4.1	79	24	6.4	3.3	4.4	4.4	1	2	101	8.5
LM LT SP 52		36	1.15	41	3.9	78	21	6.3	4.7	6.0	6.0	5	3	82	10.4
LM LT SP 52		35	1.16	41	3.8	76	22	6.4	3.8	5.1	5.1	4	3	90	11.3
SOUTH CENTRAL															
MISSISSIPPI															
TUNICA															
COKER 310															
LM 51		38	1.21	42	4.1	79	24	5.5	3.4	4.5	4.5	2	3	97	8.8
LM 51		37	1.21	43	4.9	88	24	5.9	4.7	5.2	5.2	2	3	97	10.0
LM 51		36	1.23	44	4.6	82	24	6.2	4.6	5.1	5.1	2	2	96	10.1

Table 7a.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1971

Name		Code		32d In.		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn			Color-22s bichd. yarn			Color - 22s dyed yarn		
						22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Pct.	Pct.	Index	Index		22s or 27 tex	50s or 12 tex	No.	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
SOUTH EAST																							
ALABAMA																							
ORRVILLE																							
COKER 310																							
	LM	LT	SP	52	36	101	37	5.7	4.5	110	80	20	14	65	63.6	11.7	85	83.4	3.0	101	26.7	27.9	112
	LM			51	36	101	35	6.1	4.7	110	90	17	11	60	67.9	10.9	91	84.7	2.8	105	26.8	27.4	110
	LM			51	36	107	39	6.3	5.3	110	80	29	22	69	69.3	10.3	92	84.5	3.2	103	26.6	26.6	107
	LM			51	35	102	36	6.3	4.9	110	80	20	19	62	70.8	10.2	95	83.9	2.8	103	26.6	28.1	113
GEORGIA																							
COMER																							
COKER 310																							
	SLM			41	36	112	40	6.7	5.5	100	90	18	15	67	68.7	10.9	93	85.1	3.1	105	26.3	27.5	111
	LM			51	35	108	39	6.6	5.3	120	90	24	20	74	64.1	10.5	83	85.8	3.0	107	26.3	27.6	112
	LM			51	34	99	35	6.3	5.4	110	90	19	21	63	66.7	10.0	86	83.7	3.3	101	27.2	26.1	104
MADISON																							
COKER 310																							
	SLM	LT	SP	42	35	104	36	6.4	5.1	110	90	20	14	65	66.6	11.4	90	84.2	3.2	103	26.3	28.0	113
	SLM	LT	SP	42	35	104	37	6.4	5.4	110	90	24	19	65	66.2	11.0	88	84.4	3.2	103	26.2	27.7	112
	LM			51	35	96	33	6.3	4.9	110	80	25	22	56	66.3	10.4	86	85.2	3.3	104	27.2	25.9	103
	LM	LT	SP	52	34	91	31	6.2	4.9	110	80	20	22	59	65.2	10.3	84	83.3	3.2	100	28.0	26.1	102
NORTH CAROLINA																							
FALLSTON																							
COKER 310																							
	LM	LT	SP	52	36	88	29	6.1	4.5	120	90	18	16	59	61.8	9.9	78	83.3	4.0	97	25.9	27.7	113
SOUTH CAROLINA																							
RIDGE SPRINGS																							
COKER 310																							
	LM			51	36	112	39	7.2	5.8	110	90	23	19	68	69.6	10.7	94	84.6	3.0	104	26.2	27.0	110
	SLM			41	36	112	40	6.8	5.8	110	90	16	11	71	70.8	10.3	95	84.6	2.7	105	27.6	26.7	106
	LM	LT	SP	52	36	103	37	6.5	5.0	90	70	36	28	70	62.5	10.3	80	85.1	2.9	106	27.8	26.1	103
	LM	LT	SP	52	35	98	34	6.4	5.2	100	80	25	25	62	65.3	10.1	84	83.8	2.8	103	27.9	26.2	103
SOUTH CENTRAL																							
MISSISSIPPI																							
TUNICA																							
COKER 310																							
	LM			51	38	113	42	6.5	5.6	100	80	20	18	71	69.3	10.5	93	84.0	2.9	103	27.0	27.4	110
	LM			51	37	114	42	6.3	5.3	120	90	21	18	70	70.3	10.8	96	84.6	2.8	105	25.6	28.5	117
	LM			51	36	113	41	6.7	5.2	100	80	20	18	68	69.4	10.6	93	84.3	2.7	105	27.4	27.6	110

Table 7.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.
WEST ARIZONA													
ELFRIDA													
ACALA 1517-70													
100 PERCENT*													
M LT SP 32	36	1.14	42	3.9	96	24	5.0	1.7	2.7	2	4	101	8.7
M 31	36	1.13	44	3.5	91	26	5.3	1.3	2.3	0	3	105	8.9
M LT SP 32	36	1.17	43	3.7	93	24	5.5	1.6	2.6	1	4	103	8.8
NEW MEXICO													
ARTESIA													
ACALA 1517V													
100 PERCENT*													
M 31	38	1.22	44	3.6	94	29	5.6	1.2	2.0	1	3	103	7.0
M 31	38	1.13	45	3.6	90	26	5.5	1.0	2.2	0	2	105	7.7
SLM 41	36	1.12	42	2.7	89	25	5.5	1.8	3.3	1	3	102	10.4
DEXTER													
ACALA 1517-70													
100 PERCENT*													
M 31	38	1.21	44	3.8	94	27	5.5	1.4	2.2	1	3	102	7.8
SLM 41	38	1.18	43	3.4	94	26	5.1	1.3	2.2	1	2	101	10.1
SLM 41	36	1.09	42	2.9	90	21	6.3	1.6	2.8	1	3	101	10.2
HATCH													
ACALA 1517V													
80 PERCENT													
M 31	37	1.18	45	4.1	89	28	5.6	1.3	2.3	1	3	103	8.5
M 31	37	1.20	45	3.8	92	28	5.6	1.2	2.1	1	2	103	7.7
SLM 41	37	1.18	44	2.8	94	24	5.5	1.9	3.1	1	3	104	9.3
LAS CRUCES													
ACALA 1517V 1/													
100 PERCENT*													
M LT SP 32	37	1.18	49	4.0	89	27	6.0	2.4	3.3	2	3	100	10.2
M 31	37	1.19	46	4.1	91	27	5.9	1.8	3.0	2	3	99	10.5
M LT SP 32	37	1.18	46	4.0	89	25	6.1	1.8	2.8	2	3	100	10.2
WEST TEXAS													
EL PASO													
ACALA 1517C 1/													
100 PERCENT*													
M LT SP 32	38	1.22	46	4.0	85	27	6.4	2.2	3.4	2	4	99	9.5
M 31	37	1.20	46	3.9	91	26	6.2	1.3	2.5	1	3	102	9.2
M 31	37	1.15	45	3.9	88	27	5.8	1.5	3.6	1	3	101	9.4
EL PASO													
ACALA 1517C													
75 PERCENT													
M 31	37	1.18	45	3.7	87	25	6.3	0.9	1.9	0	3	104	7.5
M 31	36	1.09	43	3.3	93	24	5.7	1.2	2.1	1	3	104	8.8
SLM 41	36	1.11	42	3.2	91	24	5.7	1.6	2.7	1	2	103	10.2

* 100 percent selected for tests, less than 100 percent in the area
1/Upland cotton ginned on roller gin

Table 7a.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1971--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin- ning Poten- tial	Color - 22s gray yarn				Color-22s blichd. yarn				Color - 22s dyed yarn			
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Index	Index		No.	No.	Reflet- ance	Yellow- ness	Com- posite	Reflet- ance	Yellow- ness	Com- posite	Reflet- ance	Blue- ness	Com- posite	
Grade	Staple	lbs.		Pct.		Index		No.		No.		Index		Index		Index		Index		Index			
WEST ARIZONA ELFRIDA																							
		ACALA 1517-70				100 PERCENT *																	
M	LT SP 32 36	120	46	6.0	4.9	100	80	22	18	77	69.7	12.3	100	85.5	3.6	104	26.9	26.9	108				
M	31 36	124	46	6.4	5.1	110	80	17	18	74	72.6	10.9	100	84.3	2.9	104	26.6	26.8	108				
M	LT SP 32 36	124	46	6.8	5.7	90	80	25	20	77	70.0	11.8	99	84.4	3.0	104	28.4	26.2	192				
NEW MEXICO ARTESIA																							
		ACALA 1517V				100 PERCENT *																	
M	31 38	139	53	6.6	5.6	110	90	18	13	80	70.6	10.6	96	84.6	3.2	103	26.3	27.6	112				
M	31 38	131	51	6.5	5.6	100	80	15	15	78	72.7	10.3	99	85.7	3.1	106	27.4	26.5	105				
SLM	41 36	131	50	7.0	5.7	80	60	48	43	81	71.0	11.1	98	84.9	3.7	102	27.0	26.2	105				
DEXTER																							
		ACALA 1517-70				100 PERCENT *																	
M	31 38	136	53	6.5	5.6	100	80	19	20	81	71.3	10.6	97	84.8	3.1	104	25.2	27.8	115				
SLM	41 38	127	47	5.9	4.8	80	70	31	33	66	69.5	10.7	94	84.5	3.0	104	27.0	26.4	106				
SLM	41 36	112	40	5.6	4.2	80	60	51	46	65	69.2	10.9	94	83.4	3.4	100	28.9	25.6	99				
HATCH																							
		ACALA 1517V				80 PERCENT																	
M	31 37	133	50	6.4	5.3	100	70	27	22	81	72.3	10.2	98	85.5	2.8	107	25.6	28.2	116				
M	31 37	130	51	6.6	5.6	100	70	18	17	88	72.6	10.3	98	84.0	3.2	102	26.2	27.2	110				
SLM	41 37	132	52	7.0	5.7	80	70	37	43	84	70.5	10.5	96	83.7	3.2	101	26.6	26.9	108				
LAS CRUCES																							
		ACALA 1517V $\overline{1}$				100 PERCENT *																	
M	LT SP 32 37	134	50	6.7	5.5	100	80	31	28	77	68.8	10.8	93	83.6	3.1	102	25.9	27.1	111				
M	31 37	125	48	6.5	5.4	90	80	31	19	76	69.6	10.8	95	83.8	3.4	101	26.5	27.0	109				
M	LT SP 32 37	119	45	6.8	5.4	100	70	35	39	77	70.0	10.4	94	83.9	3.3	101	26.6	27.0	109				
WEST TEXAS EL PASO																							
		ACALA 1517C $\overline{1}$				100 PERCENT *																	
M	LT SP 32 38	130	49	6.6	5.6	90	60	43	32	83	68.2	11.6	94	85.4	3.2	105	26.2	27.3	111				
M	31 37	125	48	6.7	5.6	100	70	33	21	87	71.6	10.4	97	83.6	2.7	103	26.2	27.4	111				
M	31 37	124	47	6.8	5.4	110	80	30	27	78	71.8	10.2	97	84.2	3.0	103	26.9	27.6	111				
EL PASO																							
		ACALA 1517C				75 PERCENT																	
M	31 37	124	47	6.7	5.6	110	90	13	11	75	70.8	10.6	95	85.6	2.9	107	26.5	26.7	108				
M	31 36	126	46	6.7	5.2	100	80	16	14	76	72.1	10.5	98	95.0	3.1	105	26.3	27.4	111				
SLM	41 36	121	45	7.0	5.5	90	60	43	45	78	71.0	10.1	95	85.0	3.2	104	26.1	26.6	108				

* 100 percent selected for tests, less than 100 percent in the area
1/Upland cotton ginned on roller gin

* 100 percent selected for tests, less than 100 percent in the area

Upland cotton ginned on roller gin

Table 7b.--Cotton: Combed yarn processing test results for long staple varieties, by state and market area for samples of modal quality, collected at triweekly intervals, crop of 1971

State, Production Area, Chronological Sampling and Classification				Comber waste	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections			
Grade	Code	32d in.	Pct.		22s or 27 tex	50s or 12 tex	Average Break Factor	22s or 27 tex	50s or 12 tex	Pct.	Index	22s or 27 tex	50s or 12 tex	Average	22s or 27 tex	50s or 12 tex	
SOUTH EAST																	
ALABAMA																	
ORRVILLE																	
				100 PERCENT													
	LM LT SP	52	36	13.8	113	42	2293		6.0	4.9	120	100	110	13	9		
	LM	51	36	20.2	122	44	2442		6.5	5.0	130	110	120	4	4		
	LM	51	36	14.5	119	45	2434		6.5	5.5	100	90	95	18	17		
	LM	51	35	16.6	119	42	2359		6.8	5.2	120	90	105	11	8		
GEORGIA																	
COMER																	
				100 PERCENT													
	SLM	41	36	15.2	127	47	2572		7.2	5.9	130	110	120	3	4		
	LM	51	35	15.1	121	45	2456		7.2	5.7	120	100	110	12	8		
	LM	51	34	17.2	113	41	2268		6.7	5.6	120	90	105	10	9		
MADISON																	
				100 PERCENT													
	SLM LT SP	42	35	18.1	121	44	2431		6.7	5.6	130	110	120	5	3		
	SLM LT SP	42	35	15.0	115	42	2315		6.9	5.6	110	100	105	15	12		
	LM	51	35	22.8	121	44	2431		6.8	5.8	110	100	105	8	7		
	LM LT SP	52	34	17.7	106	37	2091		6.6	5.2	110	90	100	12	9		
NORTH CAROLINA																	
FALLSTON																	
				100 PERCENT													
	LM LT SP	52	36	19.0	107	38	2127		6.5	4.8	120	100	110	4	6		
SOUTH CAROLINA																	
RIDGE SPRINGS																	
				100 PERCENT													
	LM	51	36	17.4	130	49	2655		7.3	6.0	120	100	110	7	6		
	SLM	41	36	15.2	126	46	2536		7.0	5.7	120	100	110	9	7		
	LM LT SP	52	36	19.6	120	44	2420		7.1	5.6	110	90	100	12	9		
	LM LT SP	52	35	17.5	112	40	2232		6.8	5.3	110	90	100	15	13		
SOUTH CENTRAL																	
MISSISSIPPI																	
TUNICA																	
				100 PERCENT													
	LM	51	38	16.2	130	49	2655		6.7	5.5	100	80	90	12	11		
	LM	51	37	14.7	129	47	2594		6.3	5.4	120	90	105	10	6		
	LM	51	36	18.4	132	49	2677		6.5	5.5	130	100	115	4	3		

Table 7b.--Cotton: Combed yarn processing test results for long staple varieties, by state and market area for samples of modal quality, collected at triweekly intervals, crop of 1971--Continued

State, Production Area, Chronological Sampling and Classification				Comber waste		Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections	
Grade		Code	32d in.	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Average Break Factor	22s or 27 tex	Pct.	Pct.	Index	Index	Average	22s or 27 tex	50s or 12 tex
WEST ARIZONA ELFRIDA																
ACALA 1517-70																
M LT SP 32		36		17.1	142	53	2887		100	PERCENT *		100	80	90	14	11
M 31		36		17.1	141	54	2901		110	5.3	6.4	110	90	100	11	8
M LT SP 32		36		20.8	147	56	3017		120	5.3	6.7	120	100	110	8	9
NEW MEXICO ARTESIA																
ACALA 1517V																
M 31		38		12.8	150	60	3150		100	PERCENT *		100	90	95	14	13
M 31		38		17.4	150	57	3075		120	5.9	6.8	120	100	110	6	4
SLM 41		36		19.5	151	58	3111		90	5.7	7.1	90	70	80	29	25
DEXTER																
ACALA 1517-70																
M 31		38		14.9	152	60	3172		100	PERCENT *		100	90	95	13	12
SLM 41		38		17.9	142	55	2937		90	5.7	6.7	90	80	85	15	12
SLM 41		36		22.8	138	52	2818		90	5.0	6.4	90	80	85	23	24
HATCH																
ACALA 1517V																
M 31		37		14.7	148	56	3028		100	PERCENT		100	90	95	19	16
M 31		37		14.8	150	57	3075		100	5.7	6.8	100	90	95	13	11
SLM 41		37		17.6	150	58	3100		100	5.4	7.2	100	70	85	22	20
LAS CRUCES																
ACALA 1517V L/																
M LT SP 32		37		15.8	151	58	3111		110	PERCENT *		110	100	105	11	8
M 31		37		14.8	140	52	2840		100	5.8	6.9	100	90	95	14	11
M LT SP 32		37		18.0	139	52	2829		100	5.6	7.2	100	80	90	21	17
WEST TEXAS EL PASO																
ACALA 1517C L/																
M LT SP 32		38		13.3	141	54	2901		90	PERCENT *		90	70	80	33	19
M 31		37		15.2	145	55	2970		120	5.7	6.9	120	100	110	14	9
M 31		37		14.2	140	52	2840		110	6.0	7.1	110	90	100	16	16
EL PASO																
ACALA 1517C																
M 31		37		14.9	140	54	2890		120	PERCENT		120	100	110	7	9
M 31		36		16.0	142	53	2887		110	5.8	7.0	110	80	95	10	11
SLM 41		36		20.6	141	54	2901		100	5.7	6.9	100	70	85	27	30

* 100 percent selected for tests, less than 100 percent in the area
L/Upland cotton ginned on roller gin

Table 8.--Cotton: American upland extra long staple: Quality characteristics by production areas, crop of 1971

Table 8.--Cotton: American upland extra long staple.																			
State, Production Area, Chronological Sampling and Classification				Array length		Micro- naire		Fiber strength		Elon- gation 1/8"		Shirley Analyzer		Color of raw stock			Comber waste		
Grade	Code	32d in.	Upper Quartile		Coeff. of Var'n	Micro- naire	Zero gage	1/8" gage	G/tex	Pct.	Mpsi	Pct.	Pct.	Total waste	Gray- ness	Yellow- ness	Com- posite	Picker & card waste	Pct.
Name			In.	Pct.	Rdg.							Pct.	Pct.		No.	No.	Index	Pct.	Pct.
WEST																			
Arizona																			
Agulla																			
100 Percent																			
M	31	40	1.41	32	4.0		112	31		5.4		1.1	2.2		1	3	103	7.9	17.2
M	31	40	1.41	27	4.1		98	30		5.2		1.1	1.9		1	3	101	8.6	14.8
M	31	40	1.44	31	3.9		105	32		5.7		2.1	3.3		1	3	103	8.9	16.8

Del Cerro

Table 9.--Cotton, American Pima extra long staple: Quality characteristics by production area, crop of 1971

State, Production Area, Chronological Sampling and Classification		Array length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Comber waste
Grade	Staple	Upper Quartile	Coef. of Var'n		Zero gage	1/8" gage		Visible waste	Total waste	Gray- ness	Yellow- ness	Com- posite	
32d in.		In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
<u>WEST</u>													
<u>ARIZONA</u>													
<u>Casa Grande</u>													
<u>70 Percent</u>													
4	44	1.44	32	4.0	97	32	7.0	2.1	3.2	3	4	93	18.6
3	44	1.48	30	3.6	98	34	6.5	1.5	2.1	3	5	96	17.4
4	44	1.48	30	3.8	99	33	6.8	2.2	3.5	4	5	92	18.5
<u>Peoria</u>													
<u>100 Percent</u>													
4	44	1.47	30	3.9	103	32	7.2	1.8	3.0	4	5	90	17.0
4	44	1.49	30	3.9	102	36	6.8	2.0	3.4	3	5	93	17.6
4	44	1.50	30	3.9	103	33	6.8	2.6	3.7	3	5	94	18.8
<u>Safford</u>													
<u>71 Percent</u>													
3	46	1.48	32	3.8	97	33	7.6	1.3	2.5	5	5	86	16.2
4	46	1.51	31	3.9	100	32	7.9	2.2	3.5	4	5	89	14.7
4	46	1.52	29	3.8	101	35	7.0	1.3	2.1	4	5	88	14.7
5	44	1.49	28	4.0	103	35	7.9	1.6	2.7	4	5	90	16.0
<u>NEW MEXICO</u>													
<u>Las Cruces</u>													
<u>100 Percent*</u>													
3	44	1.46	28	3.8	99	32	7.6	1.3	2.8	4	5	87	18.5
3	44	1.32	33	4.2	99	32	7.3	0.7	2.0	3	5	93	17.6
3	44	1.43	34	3.8	101	32	8.3	0.9	2.1	3	5	94	17.6
4	44	1.43	30	3.7	102	31	7.7	1.9	3.1	4	6	90	15.7
<u>WEST TEXAS</u>													
<u>El Paso</u>													
<u>100 Percent*</u>													
3	44	1.49	30	3.8	96	32	7.5	1.6	2.5	5	6	86	17.3
4	44	1.41	33	3.9	94	31	7.9	2.0	3.6	5	6	85	17.7
4	44	1.41	33	3.6	98	33	7.4	2.4	3.5	5	6	83	17.4
5	44	1.39	33	3.1	100	32	7.2	2.5	4.4	5	6	84	18.9
<u>El Paso</u>													
<u>95 Percent</u>													
3	46	1.47	29	4.0	98	33	7.1	1.1	2.5	4	6	86	16.1
3	46	1.48	33	3.8	99	32	8.0	0.5	1.2	4	6	88	16.9
4	44	1.38	33	4.1	97	34	7.0	0.7	2.4	5	6	86	18.4
4	44	1.45	31	3.5	102	33	7.3	0.6	1.7	3	6	93	18.1
<u>Pecos</u>													
<u>100 Percent*</u>													
3	44	1.43	32	3.8	99	33	6.9	1.0	2.4	5	6	85	18.7
3	44	1.38	29	3.9	97	30	7.7	0.6	1.4	4	6	89	18.5
4	44	1.39	37	3.3	95	34	6.6	1.7	3.2	5	7	84	20.6

* 100 percent selected for tests, less than 100 percent in the area

Table 9.--Cotton, American Pima extra long staple: Quality characteristics by production area, crop of 1971--(Continued)

State, Production Area, Chronological Sampling and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color - 50s gray yarn				Color-50s bleached yarn				Color - 50s dyed yarn		
Grade	Staple		50s or 12 tex	80s or 7 tex	50s or 12 tex	80s or 7 tex	50s or 12 tex	80s or 7 tex	50s or 12 tex	80s or 7 tex	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite		
32d in.			Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index		
WEST																					
ARIZONA																					
Casa Grande																					
70 Percent																					
4	44		67	37	5.7	5.1	110	110	2	2	66.9	12.4	95	83.5	3.2	101	29.2	26.6	102		
3	44		63	37	5.5	5.2	110	110	2	2	69.0	12.4	99	83.1	3.4	99	27.7	28.4	112		
4	44		67	38	5.7	5.1	110	110	5	4	67.8	12.6	97	82.7	3.8	97	29.1	25.9	99		
Peoria																					
100 Percent																					
4	44		71	39	5.7	5.3	110	100	2	1	66.1	12.6	93	83.4	3.6	99	28.3	26.3	103		
4	44		70	38	5.7	5.2	100	110	5	3	66.2	12.5	93	82.2	3.6	96	27.3	27.5	109		
4	44		71	39	5.9	5.2	120	110	4	4	66.5	12.7	95	84.2	3.7	101	27.7	27.0	107		
Safford																					
71 Percent																					
3	46		65	37	5.9	5.2	130	130	1	1	63.3	13.1	88	83.0	4.0	96	26.5	27.6	111		
4	46		68	37	6.1	5.2	110	110	2	2	64.5	12.5	89	83.1	3.8	98	26.8	27.7	111		
4	46		65	37	6.1	5.4	110	110	4	2	66.8	12.7	96	83.5	3.5	100	27.9	27.9	110		
5	44		67	35	5.7	5.2	110	120	2	2	65.4	12.8	93	83.1	3.3	100	28.0	27.4	108		
NEW MEXICO																					
Las Cruces																					
100 Percent*																					
3	44		66	37	5.7	5.2	120	110	1	1	63.9	12.5	87	82.9	3.7	97	27.3	26.8	107		
3	44		62	36	5.8	5.0	120	120	1	1	63.6	12.5	87	81.4	3.8	94	27.7	27.1	107		
3	44		66	37	5.8	5.3	110	120	3	3	64.7	12.4	89	84.0	3.9	99	27.1	27.2	109		
4	44		67	36	5.8	5.1	110	110	2	1	63.7	13.1	89	82.8	4.0	96	26.9	27.2	109		
WEST TEXAS																					
El Paso																					
100 Percent*																					
3	44		68	37	5.9	5.2	130	130	2	0	63.6	12.9	88	83.9	4.1	98	26.6	27.4	110		
4	44		64	35	6.0	5.1	100	110	3	3	61.0	12.8	83	81.4	4.0	93	26.2	27.8	113		
4	44		63	36	6.0	5.4	100	100	5	4	61.4	13.0	84	81.7	4.6	91	27.9	26.7	105		
5	44		64	35	5.9	5.2	100	90	7	6	60.2	13.0	82	81.3	4.2	92	27.6	26.4	104		
El Paso																					
95 Percent																					
3	46		64	36	5.7	5.2	130	120	2	1	62.8	12.8	86	83.3	4.0	97	26.1	27.5	112		
3	46		63	35	5.6	4.9	110	110	5	3	62.2	12.7	85	82.4	4.0	95	25.5	28.6	117		
4	44		63	35	5.7	5.0	100	110	8	5	63.0	13.1	87	81.6	4.3	92	28.6	26.8	104		
4	44		64	35	6.0	5.2	100	100	7	5	63.2	12.8	87	81.5	3.9	93	27.5	26.5	105		
Pecos																					
100 Percent*																					
3	44		67	37	5.7	5.2	130	120	2	2	62.0	13.6	87	84.3	4.6	97	27.5	27.1	107		
3	44		62	34	5.8	5.2	110	110	3	1	64.1	13.0	90	84.3	3.5	102	28.0	27.1	106		
4	44		59	33	5.7	5.0	100	100	6	6	62.7	13.3	87	82.1	4.3	93	27.5	27.4	109		

* 100 percent selected for tests, less than 100 percent in the area

Table 10.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 68 short staple samples collected at triweekly intervals from selected gin points, crop of 1971

Item	Grade	Staple	Fiber length		Micro- naire	Fiber strength		Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage	Visible waste	Total waste	Gray- ness	Yellow- ness	Com- posite		
	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
Sample Distribution:														
Mean.....	89.9	30.3	.95	44.5	3.78	79.2	20.0	7.07	4.34	3.4	3.9	91.4	7.12	37.6
Standard deviation (±).....	5.5	.9	.05	1.1	.93	3.6	.9	.67	1.42	.9	.4	4.5	1.42	5.0
Correlation Coef. for:														
Classification:														
Grade.....	+ .033		+ .089	+ .032	+ .321	+ .081	+ .033	+ .094	-.618	-.518	+ .044	+ .591	-.625	+ .225
Staple.....			+ .688	-.042	+ .206	-.272	+ .267	+ .239	-.034	+ .006	+ .140	-.065	-.283	+ .646
Fiber length:														
2.5% span.....	+ .089	+ .688							-.276	+ .198	+ .206	-.249	-.443	+ .680
50/2.5.....	+ .032	-.042	-.144		+ .418	+ .317	+ .181	-.185	-.031	+ .075	+ .028	-.059	-.052	-.091
Micronaire.....	+ .321	+ .206	+ .418	+ .381		+ .111	-.104	-.150	-.429	+ .216	+ .144	-.204	-.502	+ .106
Fiber strength:														
Zero gage.....	+ .081	-.272	-.379	+ .317	+ .111		+ .331	-.592	+ .070	-.108	-.129	+ .084	+ .099	-.279
1/8" gage.....	+ .033	+ .267	+ .074	+ .181	-.104	+ .331	-.158	-.158	+ .083	-.289	-.103	+ .228	+ .013	+ .251
Elongation (1/8").....	+ .094	+ .239	+ .220	-.185	-.150	-.592			-.250	+ .077	+ .255	+ .001	-.180	+ .264
Shirley Analyzer:														
Visible waste.....	-.618	-.034	-.276	-.031	-.429	+ .070	+ .083	-.250	+ .979	+ .061	-.105	-.129	+ .807	-.196
Total waste.....	-.643	-.076	-.323	-.106	-.520	+ .026	+ .023	-.208		+ .058	-.121	-.124	+ .845	-.238
Color of raw stock:														
Grayness.....	-.518	+ .006	-.276	-.031	-.429	+ .070	+ .083	-.250	+ .979	+ .061	-.105	-.129	+ .807	-.196
Yellowness.....	+ .044	+ .140	+ .206	+ .028	+ .144	-.129	-.103	+ .255	+ .061	+ .187	-.220	-.220	-.017	+ .040
Composite.....	+ .591	-.065	-.249	-.059	-.204	+ .084	+ .228	+ .001	-.129	-.942	-.220	-.220	-.133	-.018
Picker & card waste.....	-.625	-.283	-.443	-.052	-.502	+ .099	+ .013	-.180	+ .807	-.017	-.133	-.061	-.061	-.053
Spinning Potential.....														
8s (74 tex).....	+ .027	+ .358	+ .146	+ .111	-.296	+ .054	+ .549	+ .145	+ .134	-.121	-.015	+ .079	-.128	+ .516
22s (27 tex).....	-.030	+ .334	+ .124	+ .174	-.238	+ .115	+ .478	+ .160	+ .146	-.089	-.020	+ .056	-.112	+ .517
Yarn elongation:														
8s (74 tex).....	+ .000	+ .255	+ .258	-.232	-.324	-.575	+ .016	+ .703	-.146	-.007	+ .102	+ .030	-.168	+ .403
22s (27 tex).....	-.067	+ .194	+ .148	-.262	-.517	-.499	+ .079	+ .666	-.033	-.096	+ .055	+ .128	-.034	+ .356
Yarn Appearance:														
8s (74 tex).....	+ .292	+ .131	+ .284	+ .369	+ .684	+ .113	-.066	-.122	-.414	+ .195	+ .095	-.167	-.522	+ .194
22s (27 tex).....	+ .270	+ .094	+ .094	+ .421	+ .503	+ .116	+ .035	-.232	-.216	+ .025	+ .008	+ .025	-.374	+ .134
Yarn imperfections:														
8s (74 tex).....	-.479	-.126	-.301	-.303	-.712	-.024	-.022	+ .069	+ .506	-.107	-.020	+ .044	+ .611	-.228
22s (27 tex).....	-.488	-.116	-.327	-.326	-.684	-.056	-.022	+ .038	+ .553	-.106	-.033	+ .031	+ .646	-.262
Color - 22s gray yarn:														
Reflectance.....	+ .397	-.201	-.310	-.086	-.180	+ .182	+ .195	-.080	+ .079	-.832	-.228	+ .850	+ .175	-.229
Yellowness.....	+ .029	-.034	-.226	+ .328	+ .012	+ .199	+ .134	+ .009	+ .071	-.216	+ .398	+ .182	+ .094	-.361
Composite.....	+ .373	-.221	-.387	+ .039	-.162	+ .245	+ .218	-.118	+ .110	-.825	-.124	+ .846	+ .191	-.329
Color-22s bleached yarn:														
Reflectance.....	-.260	-.234	-.218	+ .000	-.198	-.071	-.067	-.128	+ .296	-.075	-.011	+ .002	+ .430	-.231
Yellowness.....	-.228	+ .173	-.124	-.308	-.709	-.014	+ .261	+ .195	+ .280	-.060	-.182	+ .061	+ .215	+ .175
Composite.....	-.086	-.260	-.102	+ .182	+ .253	-.042	-.195	-.227	+ .083	-.017	+ .115	-.047	+ .208	-.276
Color - 22s dyed yarn:														
Reflectance.....	-.526	-.319	-.321	-.335	-.438	+ .216	-.096	-.366	+ .305	+ .262	-.278	-.291	+ .408	-.381
Blueness.....	+ .436	+ .202	+ .338	+ .394	+ .762	-.098	-.063	+ .175	-.375	-.066	+ .286	+ .017	-.456	+ .237
Composite.....	+ .506	+ .254	+ .334	+ .389	+ .681	-.143	-.008	+ .252	-.376	-.111	+ .278	+ .130	-.474	+ .311

Table 10.--Continued

Item	Yarn strength			Yarn elongation			Yarn appearance			Yarn imprints			Color - 22s gray yarn			Color - 22s bleached yarn			Color - 22s dyed yarn		
	Coarse 8s	Fine 22s	Lbs.	Coarse 8s	Fine 22s	Pct.	Coarse 8s	Fine 22s	Index	Coarse 8s	Fine 22s	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Sample Distribution:																					
Mean.....	293.3	86.1	7.2	6.2	6.2	6.2	119.9	112.5	63.2	39.6	17.0	2.2	66.0	11.5	89.2	84.2	3.8	100.3	27.4	26.6	105.3
Standard deviation (+)...	14.1	4.7	.6	.6	.6	.6	7.0	11.2	27.7	17.0	2.2	2.2	2.2	.5	4.6	1.1	.5	3.5	.9	.8	4.8
Correlation Coef. for Classification:																					
Grade.....	-.027	-.030	+0.000	-.067	-.067	-.067	+0.292	+0.270	-.479	-.488	-.488	-.488	-.488	-.488	-.488	-.488	-.488	-.488	-.488	-.488	-.488
Staple.....	+0.358	+0.334	+0.255	+0.194	+0.194	+0.194	+0.131	+0.054	-.126	-.116	-.116	-.116	-.116	-.116	-.116	-.116	-.116	-.116	-.116	-.116	-.116
Fiber length:																					
2.5% span.....	+0.146	+0.124	+0.258	+0.148	+0.148	+0.148	+0.284	+0.054	-.301	-.327	-.327	-.327	-.327	-.327	-.327	-.327	-.327	-.327	-.327	-.327	-.327
50/2.5.....	+0.111	+0.174	-.232	-.262	-.262	-.262	+0.369	+0.421	-.303	-.326	-.326	-.326	-.326	-.326	-.326	-.326	-.326	-.326	-.326	-.326	-.326
Micronaire.....	-.296	-.238	-.324	-.517	-.517	-.517	+0.684	+0.503	-.712	-.684	-.684	-.684	-.684	-.684	-.684	-.684	-.684	-.684	-.684	-.684	-.684
Fiber strength:																					
Zero gage.....	+0.094	+0.115	-.575	-.499	-.499	-.499	+0.113	+0.116	-.024	-.056	-.056	-.056	-.056	-.056	-.056	-.056	-.056	-.056	-.056	-.056	-.056
1/8" gage.....	+0.549	+0.478	+0.016	+0.079	+0.079	+0.079	-.066	+0.035	-.022	-.022	-.022	-.022	-.022	-.022	-.022	-.022	-.022	-.022	-.022	-.022	-.022
Elongation (1/8").....	+0.145	+0.160	+0.703	+0.666	+0.666	+0.666	-.122	-.232	+0.069	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038	+0.038
Shirley Analyzer:																					
Visible waste.....	+0.134	+0.146	-.146	-.033	-.033	-.033	-.444	-.216	+0.506	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553	+0.553
Total waste.....	+0.102	+0.111	-.089	+0.026	+0.026	+0.026	-.471	-.286	+0.570	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611	+0.611
Color of raw stock:																					
Grayness.....	-.121	-.087	-.007	-.096	-.096	-.096	+0.195	+0.025	-.107	-.106	-.106	-.106	-.106	-.106	-.106	-.106	-.106	-.106	-.106	-.106	-.106
Yellowness.....	-.015	-.020	+0.102	+0.095	+0.095	+0.095	-.095	+0.008	-.020	-.033	-.033	-.033	-.033	-.033	-.033	-.033	-.033	-.033	-.033	-.033	-.033
Composite.....	+0.079	+0.056	+0.030	+0.128	+0.128	+0.128	-.167	+0.025	+0.044	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031	+0.031
Picker & card waste.....	-.128	-.112	-.168	-.034	-.034	-.034	-.522	-.374	+0.611	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646	+0.646
Spinning Potential.....	+0.516	+0.517	+0.403	+0.356	+0.356	+0.356	+0.194	+0.134	-.228	-.262	-.262	-.262	-.262	-.262	-.262	-.262	-.262	-.262	-.262	-.262	-.262
Yarn skein strength:																					
8s (74 tex).....	+0.940		+0.465	+0.522	+0.522	+0.522	-.133	-.044	+0.083	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075	+0.075
22s (27 tex).....			+0.389	+0.472	+0.472	+0.472	-.089	-.018	+0.084	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070
Yarn elongation:																					
8s (74 tex).....	+0.465	+0.389																			
22s (27 tex).....	+0.522	+0.472	+0.902	+0.902	+0.902	+0.902	-.192	-.331	+0.309	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256	+0.256
Yarn appearance:																					
8s (74 tex).....	-.133	-.089	-.192	-.331	-.331	-.331	+0.742	+0.742	-.785	-.794	-.794	-.794	-.794	-.794	-.794	-.794	-.794	-.794	-.794	-.794	-.794
22s (27 tex).....	-.044	-.018	-.202	-.316	-.316	-.316			-.749	-.751	-.751	-.751	-.751	-.751	-.751	-.751	-.751	-.751	-.751	-.751	-.751
Yarn imperfections:																					
8s (74 tex).....	+0.083	+0.084	+0.149	+0.309	+0.309	+0.309	-.785	-.749	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971
22s (27 tex).....	+0.075	+0.070	+0.119	+0.256	+0.256	+0.256	-.794	-.751	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971	+0.971
Color - 22s gray yarn:																					
Reflectance.....	+0.020	+0.018	-.018	+0.072	+0.072	+0.072	-.213	-.063	+0.097	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101	+0.101
Yellowness.....	+0.000	+0.044	-.211	-.123	-.123	-.123	-.136	-.017	+0.162	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141	+0.141
Composite.....	+0.017	+0.033	-.109	+0.002	+0.002	+0.002	-.225	-.039	+0.126	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128	+0.128
Color - 22s bleached yarn:																					
Reflectance.....	-.253	-.251	+0.002	+0.077	+0.077	+0.077	-.276	-.169	+0.428	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419	+0.419
Yellowness.....	+0.396	+0.346	+0.270	+0.383	+0.383	+0.383	-.348	-.295	+0.366	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362	+0.362
Composite.....	-.395	-.366	-.161	-.169	-.169	-.169	-.395	-.022	+0.130	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135	+0.135
Color - 22s dyed yarn:																					
Reflectance.....	-.177	-.208	-.219	-.112	-.112	-.112	-.357	-.320	+0.428	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441	+0.441
Blue-ness.....	-.062	-.002	-.007	-.182	-.182	-.182	+0.524	+0.429	-.612	-.601	-.601	-.601	-.601	-.601	-.601	-.601	-.601	-.601	-.601	-.601	-.601
Composite.....	+0.029	+0.083	+0.078	-.080	-.080	-.080	+0.499	+0.428	-.585	-.579	-.579	-.579	-.579	-.579	-.579	-.579	-.579	-.579	-.579	-.579	-.579

Table 11.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 317 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Item	Grade	Staple	Fiber length		Micro- naire	Fiber strength		Elon- gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	G/tex		Visible waste	Total waste	Gray- ness	Yellow- ness	Com- posite		
	Index	32d in.	In.	Pct.	Rdg.	Mpsi		Pct.	Pct.	No.	No.	Index	Pct.	No.	
Sample Distribution:															
Mean.....	91.4	34.5	1.09	44.7	4.26	82.9	22.6	6.46	2.12	3.14	2.2	96.5	6.05	62.2	
Standard deviation (+)....	5.6	1.2	.05	1.5	.50	7.0	2.1	.82	.88	.97	1.0	7.2	1.10	8.9	
Correlation Coef. for:															
Classification:															
Grade.....index															
Staple.....32d inches	+402		+391	+116	+220	+396	+412	-.058	-.675	-.698	-.718	+436	-.776	+366	
Fiber length:			+819	+228	+329	+289	+474	-.158	-.190	-.301	-.419	+207	-.438	+726	
2.5% span.....inches	+391	+819													
50/2.5.....pct	+116	+228	+152												
Micronaire.....reading	+220	+329	+228	+390											
Fiber strength:															
Zero gage.....Mpsi	+396														
1/8" gage.....grams/tex	+412	+289	+300	+369	+000	+790									
Elongation (1/8").....pct	-.058	+474	+510	+285	-.087	-.490	-.224	-.224	-.216	-.214	-.371	+136	-.374	+697	
Shirley Analyzer:															
Visible waste.....pct	-.675	-.190	-.199	+040	-.171	-.178	-.216	-.016	+920	+.920	+486	-.322	+740	-.218	
Total waste.....pct	-.698	-.301	-.270	-.069	-.335	-.166	-.214	+060			+552	-.366	+795	-.270	
Color of raw stock:															
Grayness.....No.	-.718	-.419	-.362	+029	-.055	-.238	-.371	-.079	+486	+.552	+373	-.527	+546	-.363	
Yellowness.....No.	-.089	-.376	-.301	+058	-.048	+046	-.114	-.061	+026	+.084	+.373	-.014	+090	-.256	
Composite.....index	+436	+207	+148	-.030	+056	+087	+136	+103	-.322	-.366	-.527		-.338	+132	
Picker & card waste.....pct	-.776	-.438	-.446	-.205	-.328	-.338	-.374	+032	+740	+.795	+546	-.338		-.462	
Spinning Potential.....No.	+366	+726	+769	+339	+024	+496	+697	-.116	-.218	-.270	-.363	+132	-.462		
Yarn skein strength:															
22s (27 tex).....pounds	+447	+543	+627	+360	-.135	+750	+864	-.124	-.183	-.185	-.391	+158	-.453	+822	
50s (12 tex).....pounds	+398	+608	+689	+339	-.132	+655	+838	-.074	-.164	-.179	-.391	+148	-.426	+876	
Yarn elongation:															
22s (27 tex).....pct	-.095	+079	+159	-.265	-.286	-.544	-.198	+618	+034	+.013	-.203	+151	+050	+078	
50s (12 tex).....pct	-.061	+226	+248	-.166	-.145	-.468	-.102	+455	+022	-.041	-.240	+167	+034	+207	
Yarn Appearance:															
22s (27 tex).....index	+277	+218	+150	+465	+382	+324	+196	-.274	-.169	-.206	-.037	-.001	-.407	+240	
50s (12 tex).....index	+244	+236	+158	+481	+430	+250	+130	-.270	-.129	-.201	-.026	+008	-.374	+207	
Yarn imperfections:															
22s (27 tex).....No.	-.317	-.451	-.277	-.266	-.672	-.014	-.010	+314	+330	+.466	+284	-.148	+.447	-.231	
50s (12 tex).....No.	-.325	-.460	-.295	-.320	-.663	-.078	-.053	+328	+310	+.439	+271	-.134	+.470	-.266	
Color - 22s gray yarn:															
Reflectance.....Rd	+695	+416	+388	-.036	+140	+163	+261	+119	-.400	-.475	-.850	+513		+276	
Yellowness.....Yb	-.006	-.316	-.203	+112	-.189	+247	+092	-.076	+091	+.162	+203	-.124	+.070	-.107	
Composite.....index	+732	+345	+336	+006	+102	+261	+305	+090	-.397	-.457	-.820	+508	-.548	+268	
Color-22s bleached yarn:															
Reflectance.....Rd	+029	-.017	+034	-.139	+014	-.444	-.288	+287	-.010	-.074	-.152	+132	-.005	-.112	
Yellowness.....Yb	-.306	-.411	-.351	-.036	-.411	+150	+034	-.068	+.248	+.346	+.414	-.279	+.351	-.166	
Composite.....index	+186	+170	+149	-.074	+198	-.368	-.239	+245	-.130	-.219	-.306	+250	-.160	+000	
Color - 22s dyed yarn:															
Reflectance.....Rd	-.368	-.443	-.364	-.372	-.238	-.241	-.311	+073	+215	+.289	+323	-.143	+.391	-.512	
Blueness.....Yb	+329	+364	+298	+.275	+420	-.008	+.071	-.027	-.220	-.324	-.324	+168	-.274	-.280	
Composite.....index	+368	+439	+362	+342	+374	+097	+185	-.054	-.234	-.337	-.352	+170	-.352	+408	

Table 11.--Continued

Item	Yarn strength			Yarn elongation			Yarn appearance			Yarn imprfctns			Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 22s	Fine 50s	Lbs.	Coarse 22s	Pct.	Fine 50s	Coarse 22s	Fine 50s	Index	Coarse 22s	Fine 50s	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Sample Distribution:																					
Mean.....	105.5	36.7			6.3	4.7	113.3	88.5		23.3	17.7		69.4	10.5	93.1	84.2	3.0	103.3	26.7	27.3	109.9
Standard deviation (+)...	12.4	6.2			.6	.6	11.1	9.1		13.5	9.9		2.8	.6	5.0	.9	.3	2.9	1.0	.7	4.3
Correlation Coef. for:																					
Classification:																					
Grade.....	1447	398			-.095	-.061	277	244		317	325		685	-.006	732	029	306	186	368	329	368
Staple.....	543	608			.079	.226	218	236		451	460		416	-.316	345	017	411	170	443	364	439
Fiber length:																					
2.5% span.....	627	689			159	248	150	158		277	295		388	-.203	336	034	351	149	364	298	362
50/2.5.....	360	339			265	166	465	481		266	320		036	112	006	139	036	074	372	275	342
Micronaire.....	135	132			286	145	382	430		672	663		140	189	102	014	411	198	238	420	374
Fiber strength:																					
Zero gage.....	750	544			198	468	324	250		014	078		163	247	261	414	150	368	241	008	097
1/8" gage.....	864	838			198	102	196	130		010	053		261	092	305	288	034	239	311	071	185
Elongation (1/8").....	124	074			618	455	1274	270		314	328		119	076	090	287	068	245	073	027	054
Shirley Analyzer:																					
Visible waste.....	183	164			034	022	169	129		330	310		400	091	397	010	248	130	215	220	234
Total waste.....	185	179			013	041	206	201		466	439		475	162	457	074	346	219	289	324	337
Color of raw stock:																					
Grayness.....	391	391			203	240	037	026		284	271		850	203	820	152	414	306	323	324	352
Yellowness.....	137	196			235	253	007	013		318	318		434	711	216	019	359	177	059	116	108
Composite.....	158	148			151	167	001	008		148	134		513	124	508	132	279	250	143	168	170
Picker & card waste.....	453	426			050	034	407	374		447	470		532	070	548	005	351	160	391	274	352
Spinning Potential.....	822	876			078	207	240	207		231	266		276	107	268	112	166	000	512	280	408
Yarn skein strength:																					
22s (27 tex).....					052	004	277	226		009	050		313	106	371	233	004	169	389	078	220
50s (12 tex).....					056	142	212	173		016	066		306	040	338	172	046	117	425	120	267
Yarn elongation:																					
22s (27 tex).....					894	894	425	362		103	160		166	220	091	453	211	438	083	157	133
50s (12 tex).....							433	354		031	038		163	260	079	448	265	458	190	261	252
Yarn appearance:																					
22s (27 tex).....					425	433	798	798		461	544		121	070	183	234	103	095	248	172	218
50s (12 tex).....					362	354				475	552		111	020	144	213	142	064	205	139	179
Yarn imperfections:																					
22s (27 tex).....					103	031	461	475		965	965		319	398	225	006	443	205	341	458	452
50s (12 tex).....					160	038	544	552		965	965		322	372	239	049	391	138	327	407	412
Color - 22s gray yarn:																					
Reflectance.....					166	163	121	111		319	322		297	297	996	189	464	348	222	321	282
Yellowness.....					220	260	070	020		398	372		297	013	013	028	389	161	057	101	054
Composite.....					091	079	183	144		225	239		996	013	013	175	371	323	287	291	307
Color-22s bleached yarn:																					
Reflectance.....					453	448	234	213		006	049		189	028	175	324	324	811	043	393	181
Yellowness.....					211	265	103	142		443	391		464	389	371	324	389	719	277	435	419
Composite.....					438	458	095	064		205	138		348	161	323	811	371	443	206	443	372
Color - 22s dyed yarn:																					
Reflectance.....					083	190	248	205		341	327		222	057	287	043	277	206	678	875	875
Blueiness.....					157	261	172	139		458	407		321	101	291	393	435	443	678	948	948
Composite.....					133	252	218	179		452	412		282	054	307	181	419	372	875	948	948

Table 12.--Continued

Item	Yarn strength			Yarn elongation			Yarn appearance			Yarn imprfctns			Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 22s	Fine 50s	Lbs.	Coarse 22s	Fine 50s	Pct.	Coarse 22s	Fine 50s	Index	Coarse 22s	Fine 50s	No.	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Yellow- ness	Com- posite	Reflect- ance	Blue- ness	Com- posite
Sample Distribution:																					
Mean.....	116.1	42.8	6.5																		
Standard deviation(±)....	13.5	6.5	3																		
Correlation Coef. for:																					
Classification:																					
Grade.....index	+871	+860	+337	+372	-290		+117	+103	+782	+144	+805	+259	+007	+219	+226	+022	+239	+111			
Staple.....32d inches	+760	+769	+168	-339	-282		+120	+084	+511	+069	+538	+190	-096	+189	-332	+239	+317				
Fiber length:																					
2.5% span.....inches	+441	+457	+261	-023	+022		-062	-152	+221	+098	+249	+090	-354	+245	-380	+444	+471				
50/2.5.....pct	+519	+526	+265	-011	-066		+059	+018	+293	+034	+283	+017	-060	+078	-372	+200	+279				
Micronaire.....reading	-570	-558	-307	+686	+586		-511	-596	-422	+036	-422	-093	-275	+075	-173	+492	+391				
Fiber strength:																					
Zero gage.....Mpsi	+843	+848	+160	-503	-415		+232	+260	+692	+312	+776	+162	+088	+092	-186	-015	+071				
1/8" gage.....grams/text	+869	+865	+324	-231	-217		+021	-021	+735	+078	+730	+222	-226	+291	-397	+267	+352				
Elongation (1/8").....pct	-550	-572	+115	+357	+267		+007	-055	-480	-345	-574	-199	-020	-144	+097	-082	-094				
Shirley Analyzer:																					
Visible waste.....pct	-606	-609	-075	+295	+280		-074	-149	-496	-027	-501	-094	-297	+078	+138	+085	+009				
Total waste.....pct	-571	-567	-029	+224	+201		+018	-077	-483	-030	-488	-082	-296	+088	+202	+056	-033				
Color of raw stock:																					
Grayness.....No.	-797	-780	-308	+354	+258		-050	-111	-879	-094	-876	-226	+089	-232	+118	+057	-050				
Yellowness.....No.	-012	-006	-142	-009	+035		+100	-032	-309	+656	-097	-002	+222	-100	+012	+057	+039				
Composite.....index	+838	+820	+350	-415	-305		+103	+156	+928	+151	+942	+196	-082	+205	-158	+007	+075				
Picker & card waste..pct	-476	-491	-121	-184	-267		+501	+462	-395	-067	-401	-327	+057	-278	+266	-248	-271				
Spinning Potential....No.	+879	+906	+533	-390	-442		+269	+223	+641	+112	+670	+250	-033	+219	-343	+146	+240				
Yarn skein strength:																					
22s (27 tex).....pounds	+991	+991	+429	-481	-386		+221	+217	+765	+171	+802	+300	-064	+282	-318	+105	+213				
50s (12 tex).....pounds			+410	-483	-405		+221	+222	+754	+167	+792	+279	-046	+251	-312	+103	+205				
Yarn elongation:																					
22s (27 tex).....pct	+429	+410		-125	-050		+104	+137	+398	-196	+335	+244	-147	+263	-236	+030	+114				
50s (12 tex).....pct	+566	+567	+855	-102	+031		-028	-023	+502	-091	+461	+288	-208	+326	-284	+063	+154				
Yarn Appearance:																					
22s (27 tex).....index	-481	-483	-125	-102	+787		-700	-698	-272	-198	-338	+007	-154	+067	-320	+461	+432				
50s (12 tex).....index	-386	-405	-050	+031	-102		-812	-800	-257	-032	-263	+028	-158	+118	-178	+348	+303				
Yarn Imperfections:																					
22s (27 tex).....No.	+221	+221	+104	-028	-812		+015	+911	+072	-066	+067	+056	+284	-218	+186	-368	-312				
50s (12 tex).....No.	+217	+222	+137	-023	-698		+911	-812	+072	-066	+067	+067	+304	-284	+197	-429	-362				
Color - 22s gray yarn:																					
Reflectance.....Rd	+765	+754	+398	-272	-257		+015	+072	-016	+016	+955	+250	-240	+286	-192	+093	+146				
Yellowness.....Yb	+171	+167	-196	-198	-032		+087	-066	-016	+266	+266	+172	-144	+093	+065	+079	+032				
Composite.....index	+802	+792	+335	-333	-263		+056	+067	+955	+266	+266	+250	-166	+291	-170	+111	+153				
Color-22s bleached yarn:																					
Reflectance.....Rd	+300	+279	+244	+007	+028		-095	-149	+212	+172	+250	-126	-126	+837	-201	+029	+107				
Yellowness.....Yb	-064	-046	-147	-208	-154		+284	-304	-240	+144	-166	+1837	-620	-620	-038	-235	-168				
Composite.....index	+282	+251	+263	+067	+118		+251	-284	+286	+093	+291	+166	-166	+291	-129	+726	+961				
Color - 22s dyed yarn:																					
Reflectance.....Rd	-318	-312	-236	-320	-178		+186	+197	-192	+065	-170	-201	-038	-129	-726	-878					
Blueness.....Yb	+105	+103	+030	+461	+348		-368	-429	+093	+079	+111	+029	-235	+146	-726	+961					
Composite.....index	+213	+205	+114	+432	+303		-312	-362	+146	+032	+153	+107	-160	+168	-878						

Table 12a--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on combed yarns from 40 long staple samples from selected gin points, crop of 1971

Statistical Items	Picker & Card Waste	Comber waste	Combed Yarn Values									
			Yarn strength		Yarn elongation		Yarn appearance		Yarn imperfections			
			22s	50s	22s	50s	22s	50s	22s	50s	No.	No.
<u>Sample Distribution:</u>	<u>Pct.</u>	<u>Pct.</u>	<u>Lbs.</u>	<u>Lbs.</u>	<u>Pct.</u>	<u>Pct.</u>	<u>Index</u>	<u>Index</u>	<u>Index</u>	<u>Index</u>	<u>No.</u>	<u>No.</u>
Mean.....	9.38	16.86	133.1	49.9	6.8	5.5	110.2	91.2	13.1	11.2		
Standard deviation (+)....	.98	2.44	13.9	6.5	.3	.3	11.9	10.9	6.8	6.1		
<u>Correlation Coeff. for</u>												
Classification:												
Grade.....index	-.516	-.279	+868	+850	+338	+421	-.362	-.235	+266	+285		
Staple.....32d inches	-.397	-.368	+721	+742	+112	+204	-.411	-.275	+232	+174		
Fiber length:												
2.5% span.....inches	-.217	-.521	+356	+388	+172	+300	-.068	+032	+022	-.128		
50/2.5 unif.....pct	-.248	-.442	+458	+452	+380	+492	-.070	+096	+105	-.045		
Micronaire.....reading	+1.07	-.264	-.637	-.656	-.170	-.136	+598	+614	-.505	-.643		
Fiber strength:												
Zero gage.....Mpsi	-.344	-.090	+886	+882	+006	+158	-.470	-.404	+318	+362		
1/8" gage.....grams/tex	-.447	-.510	+798	+796	+313	+396	-.349	-.194	+258	+173		
Elongation (1/8").....pct	+261	+032	-.577	-.576	+226	+150	+353	+.293	-.143	-.189		
Shirley Analyzer:												
Visible waste.....pct	+529	+099	-.628	-.625	-.163	-.111	+334	+263	-.236	-.309		
Total waste.....pct	+553	+107	-.589	-.591	-.101	-.071	+305	+228	-.165	-.234		
Color of raw stock:												
Grayness.....No.	+525	+107	-.827	-.816	-.127	-.306	+257	+242	-.172	-.257		
Yellowness.....No.	-.051	-.057	-.012	-.004	-.162	-.009	-.036	-.022	+126	+005		
Composite.....index	-.446	-.134	+867	+848	+150	+328	-.323	-.318	+247	+318		
Picker & card waste.....pct		+466	-.414	-.448	-.116	-.280	-.061	-.137	+207	+169		
Spinning Potential.....No.	-.475	-.406	+847	+846	+446	+524	-.407	-.401	+456	+394		
Comber waste.....pct	+466		-.126	-.154	-.213	-.288	+011	-.062	-.040	+122		
Combed yarn strength:												
22s (27 tex).....pounds	-.414	-.126										
50s (12 tex).....pounds	-.448	-.154										
Combed yarn elongation:												
22s (27 tex).....pct	-.116	-.213	+992	+992	+264	+415	-.456	-.382	+347	+359		
50s (12 tex).....pct	-.280	-.288	+264	+243	+243	+421	-.481	-.387	+365	+380		
Combed yarn appearance:												
22s (27 tex).....index	-.061	+011	-.456	-.481	+027	+038	+038	+829	-.814	-.787		
50s (12 tex).....index	-.137	-.062	-.382	-.387	+036	+039	+039	-.829	-.829	-.813		
Combed yarn imperfections:												
22s (27 tex).....No.	+207	-.040	+347	+365	+060	+078	-.814	-.829	+917	+917		
50s (12 tex).....No.	+169	+122	+359	+380	+025	+048	-.787	-.813				

Table 13.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 68 short staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections		
	Pet.	Coarse 8s	Fine 22s	Pet.	Coarse 8s	Fine 22s	Index	Coarse 8s	Fine 22s	No.	Coarse 8s	Fine 22s
Picker & card waste							Index			Spinning Potential	Gray yarn	Bleached yarn
Mean Values for:											Index	Index
Dependent variable.....	7.1	293	86	6.2	7.2	86	112	120	6.2	38	89	100
Grade index.....	86	86	86	86	86	86	86	86	86	86	86	86
Staple length.....	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3	30.3
Micronaire.....	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Fiber strength (0 gage)....	79	79	79	79	79	79	79	79	79	79	79	79
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deviations (\pm) for:												
Dependent variable.....	1.42	14.1	4.7	.62	.63	4.7	11.2	7.0	11.2	5.0	4.6	3.5
Grade index.....	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Staple length.....	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86
Micronaire.....	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Fiber strength (0 gage)....	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Uniformity ratio.....	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Simple Correlation Coef. for:												
Grade index.....	-.63	-.03	-.03	-.07	+.00	-.03	+.27	+.29	+.27	+.22	+.37	-.09
Staple length.....	-.28	+.36	+.33	+.19	+.25	+.33	+.05	+.13	+.05	+.65	-.22	-.26
Micronaire.....	-.50	-.30	-.24	-.52	-.32	-.24	+.50	+.68	+.50	+.25	+.11	+.25
Fiber strength (0 gage)....	+.10	+.05	+.12	+.50	+.12	+.12	+.42	+.12	+.42	-.28	+.25	-.04
Uniformity ratio.....	-.05	+.11	+.17	-.26	-.23	+.17	+.37	+.37	+.42	-.09	+.04	+.18
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRADE INDEX, STAPLE LENGTH												
Partial Cor. Coef. for:	.68	.36	.34	.21	.25	.34	.27	.32	.27	.68	.44	.27
Grade index.....	-.64	-.04	-.04	-.08	-.01	-.04	+.27	+.29	+.27	+.27	+.39	-.08
Staple length.....	-.34	+.36	+.34	+.20	+.25	+.34	+.05	+.13	+.05	+.66	-.25	-.26
Beta Coefficients for:												
Grade index.....	-.62	-.04*	-.04*	-.07*	-.01*	-.04*	+.27*	+.29*	+.27*	+.20*	+.38	-.08*
Staple length.....	-.26*	+.36	+.34*	+.20*	+.25*	+.34*	+.05*	+.12*	+.05*	+.64	-.23*	-.26*
Regression Equation:												
Constant (a).....	+33.87	+122.91	+33.33	+2.62	+1.56	+33.33	+47.56	+58.31	+47.56	-91.40	+99.93	+136.46
Regression Coef. for:												
Grade index.....	-.16	-.10	-.04	-.01	-.00	-.04	+.55	+.37	+.55	+.18	+.32	-.05
Staple length.....	-.43	+5.92	+1.84	+.14	+.19	+1.84	+.59	+.99	+.59	+3.74	-1.26	-1.06
Standard error (\pm).....	1.04	13.18	4.44	.60	.61	4.44	10.82	6.66	10.82	3.69	4.13	3.39
DEPENDENT VARIABLE with												
GRADE INDEX, STAPLE LENGTH,												
MICRONAIRE												
Multiple Cor. Coef. for:	.73	.53	.46	.61	.48	.53	.52	.69	.52	.68	.51	.45
Partial Cor. Coef. for:												
Grade index.....	-.59	+.10	+.07	+.14	+.14	+.07	+.13	+.10	+.13	+.29	+.46	-.21
Staple length.....	-.28	+.45	+.41	+.37	+.35	+.41	-.01	-.01	-.05	+.66	-.20	-.34
Micronaire.....	-.37	-.41	-.34	-.59	-.42	-.34	+.46	+.64	+.46	-.13	-.28	+.37
Beta Coefficients for:												
Grade index.....	-.52	+.09*	+.07*	+.12*	+.13*	+.07*	+.12*	+.08*	+.12*	+.24*	+.47	-.20*
Staple length.....	-.21*	+.44	+.40	+.32	+.34	+.40	-.05*	-.01*	-.05*	+.66	-.18*	-.33*
Micronaire.....	-.29	-.42	-.34*	-.62	-.43	-.34*	+.47	+.66	+.47	-.11*	-.27*	+.39
Regression Equation:												
Constant (a).....	+30.68	+77.68	+20.93	-.32	-.55	+20.93	+88.65	+93.94	+88.65	-95.47	+90.19	+146.89
Regression Coef. for:												
Grade index.....	-.13	+.23	+.06	+.01	+.01	+.06	+.24	+.10	+.24	+.21	+.39	-.13
Staple length.....	-.34	+.26	+.21	+.23	+.25	+.21	-.62	-.62	-.62	+.36	-.97	-1.36
Micronaire.....	-.45	-6.35	-1.74	-.41	-.30	-1.74	+5.77	+5.01	+5.77	-.57	-1.37	+1.46
Standard Error (\pm).....	.97	12.00	4.18	.49	.56	4.18	9.62	5.09	9.62	3.65	3.96	3.15

*Statistically insignificant

Table 13.---Continued

Statistical Items	Dependent Variables												
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn			Index
	Pct.	lbs.	Pct.	Pct.	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn	
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)													
Multiple Cor. Coef. ....	.74	.57	.54	.72	.67	.52	.69	.74	.69	.55	.48	.78	
Partial Cor. Coef. for:													
Grade index.....													
Staple length.....	-.60	+05	+01	+13	+15	+13	+10	+13	+.31	+.42	-.17	+.45	
Micronaire.....	-.22	+50	+48	+26	+23	-.04	+00	-.04	+.63	-.13	-.38	+.10	
Fiber str. (0 gage).....	+.18	+.26	+.31	-.59	-.40	+.45	+.05	+.05	-.11	+.40	+.65	+.31	
Beta Coefficients for:													
Grade index.....	-.53	+.04*	+01*	+10*	+12*	+.11*	+.08*	+.11*	+.25*	+.42	-.16*	+.33	
Staple length.....	-.16*	+.51	+.49	+.20*	+.19*	-.03*	+.00*	-.03*	+.62	-.12*	-.39	+.06*	
Micronaire.....	-.31	-.45	-.39	-.56	-.35	+.47	+.65	+.47	-.09*	-.31*	+.41	+.58	
Fiber str. (0 gage).....	+.13*	+.24*	+.29*	-.40	-.50	+.05*	+.04*	+.05*	-.12*	+.21*	-.18*	-.22*	
Regression Equation:													
Constant (a).....	+24.86	-19.06	-18.20	+7.73	+9.59	+73.04	+86.27	+172.82	-77.50	+62.62	+165.05	+81.09	
Regression Coef. for:													
Grade index.....	-.14	+.11	+01	+01	+01	+.23	+.10	+.23	+.23	+.35	-.10	+.29	
Staple length.....	-.27	+.84	+2.70	+.14	+.14	+.03	+.93	+.11	+.34	-.62	-.15	+.36	
Micronaire.....	-.48	-6.94	-1.98	-.37	-.24	+5.68	+.46	+5.68	-.47	-1.54	+1.57	+3.05	
Fiber str. (0 gage).....	+.05	+.93	+.37	-.07	-.09	+.14	+.07	+.14	-.17	+.27	-.17	-.29	
Standard Error (±).....	.96	11.58	3.98	.43	.47	9.61	5.08	17.87	3.61	3.86	3.09	3.00	
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef. ....	.74	.63	.61	.72	.67	.58	.70	.77	.75	.55	.49	.83	
Partial Cor. Coef. for:													
Grade index.....	-.59	+.11	+07	+.14	+.16	+.17	+.12	+.17	+.31	+.43	-.15	+.52	
Staple length.....	-.22	+.53	+.51	+.26	+.23	-.02	+.01	-.02	+.63	-.12	-.38	+.13	
Micronaire.....	-.38	-.53	-.48	-.59	-.40	+.34	+.60	+.34	-.10	-.33	+.34	+.57	
Fiber str. (0 gage).....	+.16	+.18	+.22	-.49	-.54	-.04	-.00	-.04	-.15	+.20	-.21	-.43	
Uniformity ratio.....	+.06	+.32	+.34	+.13	+.10	+.30	+.17	+.30	-.00	+.10	+.09	+.42	
Beta Coefficients for:													
Grade index.....	-.53	+.09*	+06*	+.11*	+.13*	+.15*	+.10*	+.15*	+.25*	+.43	-.15*	+.36	
Staple length.....	-.16*	+.53	+.51	+.20*	+.19*	-.02*	+.01*	-.02*	+.62	-.11*	-.38	+.08*	
Micronaire.....	-.33	-.57	-.52	-.60	-.39	+.35*	+.60	+.35*	-.09*	-.35*	+.38*	+.47	
Fiber str. (0 gage).....	+.12*	+.16*	+.20*	-.42	-.52	-.03*	-.00	-.03*	-.12*	+.19*	-.20*	-.30	
Uniformity ratio.....	+.05*	+.30*	+.33*	+.10*	+.08*	+.29*	+.14*	+.29*	-.00*	+.09*	+.09*	+.30	
Regression Equation:													
Constant (a).....	+22.56	-170.89	-73.68	+5.46	+7.75	-144.47	+51.33	+269.08	-77.16	+47.22	+153.16	+30.27	
Regression Coef. for:													
Grade index.....	-.14	+.23	+05	+01	+01	+.31	+.12	+.31	+.23	+.36	-.09	+.32	
Staple length.....	-.27	+8.68	+2.78	+.14	+.14	-.26	+.08	-.26	+.34	-.60	-.15	+.44	
Micronaire.....	-.51	-8.74	-2.64	-.40	-.26	+.47	+.44	+.47	-.46	-1.72	+1.43	+2.44	
Fiber str. (0 gage).....	+.05	+.61	+.26	-.07	-.09	-.11	-.00	-.11	-.17	+.24	-.20	-.40	
Uniformity ratio.....	+.06	+3.73	+1.36	+.06	+.05	+2.93	+.87	+2.93	-.01	+.38	+.29	+1.28	
Standard Error (±).....	.95	10.98	3.75	.47	.47	9.17	5.01	17.71	3.61	3.84	3.08	2.72	

* Statistically insignificant

Table 14.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 68 short staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential		Color of 22s yarn	
	Pct.	Lbs.	Pct.	Lbs.	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	No.	Index	Gray yarn	Bleached yarn
Mean Values for:												
Dependent variable.....	7.1	293	7.2	86	120	112	63	40	38	89	100	105
Grayness.....	3	3	3	3	3	3	3	3	3	3	3	3
Yellowness.....	4	4	4	4	4	4	4	4	4	4	4	4
Nonlint content (S.A.).....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
2.5% span length.....	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Micronaire.....	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Standard Deviation (±) for:												
Dependent variable.....	1.42	14.1	.63	4.7	7.0	11.2	27.7	17.0	5.0	4.6	3.5	4.8
Grayness.....	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Yellowness.....	4	4	4	4	4	4	4	4	4	4	4	4
Nonlint content (S.A.).....	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
2.5% span length.....	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Micronaire.....	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Simple Correlation Coef. for:												
Grayness.....	-.02	-.12	-.01	-.09	+.20	+.03	-.11	-.11	+.04	-.83	-.02	-.11
Yellowness.....	-.13	-.02	+.10	+.06	+.09	+.01	-.02	-.03	-.02	+.12	+.12	+.28
Nonlint content (S.A.).....	+.85	+.10	-.09	-.47	+.57	-.29	-.24	+.61	-.24	+.11	+.05	+.46
2.5% span length.....	-.44	+.15	+.26	+.15	+.28	+.05	-.30	-.33	+.68	-.10	-.10	+.33
Micronaire.....	-.50	-.30	-.32	-.24	+.68	+.50	-.71	-.68	+.11	-.16	+.25	+.68
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS												
Multiple Cor. Coef. ....	.13	.12	.11	.09	.20	.03	.11	.11	.05	.83	.12	.32
Partial Cor. Coef. for:												
Grayness.....	+.01	-.12	-.03	-.08	+.18	+.02	-.11	-.10	+.04	-.82	-.04	-.17
Yellowness.....	-.13	+.01	+.11	-.00	+.06	+.00	+.00	-.01	-.03	+.05	+.12	+.31
Beta Coefficients for:												
Grayness.....	+.01*	-.12*	-.03*	-.09*	+.18*	+.02*	-.11*	-.10*	+.05*	-.83	-.04*	-.17*
Yellowness.....	-.13*	+.01*	+.11*	-.00*	+.06*	+.00*	+.00*	-.01*	-.03*	+.03*	+.12*	+.31*
Regression Equation:												
Constant (a).....	+.84	+.298.75	+.61	+.87.83	+.111.15	+.111.12	+.74.13	+.48.26	+.37.99	+.102.15	+.96.81	+.94.56
Regression Coef. for:												
Grayness.....	+.01	-.188	-.02	-.44	+.140	+.30	-.3.23	-.1.91	+.25	-.4.16	-.15	-.89
Yellowness.....	-.45	+.26	+.16	-.04	+.1.01	+.09	+.03	-.54	-.32	+.34	+.1.03	+.3.56
Standard Error (±).....	1.41	14.02	.63	4.70	6.87	11.24	27.52	16.87	5.01	2.60	3.49	4.57
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS,												
NONLINT (S.A.)												
Multiple Cor. Coef. ....	.85	.16	.13	.15	.52	.29	.59	.63	.25	.84	.14	.53
Partial Cor. Coef. for:												
Grayness.....	-.12	-.13	-.02	-.09	+.25	+.05	-.19	-.19	+.07	-.84	-.04	-.15
Yellowness.....	-.03	+.02	+.09	+.01	-.01	-.04	+.10	+.09	-.06	+.09	+.13	+.28
Nonlint (S.A.).....	+.84	+.11	-.08	+.12	-.49	-.29	+.59	+.63	-.25	+.28	+.07	-.44
Beta Coefficients for:												
Grayness.....	-.06*	-.13*	-.02*	-.10*	+.22*	+.05*	-.16*	-.16*	+.07*	-.84	-.05*	-.13*
Yellowness.....	-.02*	+.02*	+.10*	+.01*	-.01*	-.04*	+.08*	+.07*	-.06*	+.05*	+.13*	+.25*
Nonlint (S.A.).....	+.85	+.11*	-.08*	+.12*	-.48	-.29*	+.59	+.63	-.25*	+.07*	+.07*	-.42
Regression Equation:												
Constant (a).....	+.4.03	+.292.39	+.6.80	+.85.60	+.124.73	+.124.33	+.8.94	+.5.59	+.42.97	+.99.18	+.95.86	+.102.75
Regression Coef. for:												
Grayness.....	-.10	-.2.03	-.01	-.49	+.1.71	+.60	-.4.71	-.2.89	+.36	-.4.23	-.17	-.70
Yellowness.....	-.06	+.78	+.15	+.14	-.10	-.98	+.5.33	+.2.92	+.36	+.58	+.1.11	+.2.90
Nonlint (S.A.).....	+.85	+.1.12	+.39	+.13	-.2.32	-.2.32	+.11.47	+.7.51	-.88	+.52	+.17	-.1.44
Standard Error (±).....	.75	13.94	.63	4.66	5.99	10.76	22.29	13.15	4.85	2.49	3.49	4.10

* Statistically insignificant

Table 14.--Continued

Statistical Items	Dependent Variables																		
	Picker & card waste	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections			Spinning Potential	Color of 22s yarn				
		Coarse 8s	Fine 22s	Lbs.	Pct.	Coarse 8s	Fine 22s	Pct.	Coarse 8s	Fine 22s	Index	No.	Coarse 8s		Fine 22s	No.	Gray yarn	Bleached yarn	Dyed yarn
Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index	Index	
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH																			
Multiple Cor. Coef.....																			
Partial Cor. Coef. for:																			
Grayness.....																			
Yellowness.....																			
Nonlint (S.A.).....																			
2.5% span length.....																			
Beta Coefficients for:																			
Grayness.....																			
Yellowness.....																			
Nonlint (S.A.).....																			
2.5% span length.....																			
Regression Equation:																			
Constant (a).....																			
Regression Coef. for:																			
Grayness.....																			
Yellowness.....																			
Nonlint (S.A.).....																			
2.5% span length.....																			
Standard Error (±).....																			
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE																			
Multiple Cor. Coef.....																			
Partial Cor. Coef. for:																			
Grayness.....																			
Yellowness.....																			
Nonlint (S.A.).....																			
2.5% span length.....																			
Micronaire.....																			
Beta Coefficients for:																			
Grayness.....																			
Yellowness.....																			
Nonlint (S.A.).....																			
2.5% span length.....																			
Micronaire.....																			
Regression Equation:																			
Constant (a).....																			
Regression Coef. for:																			
Grayness.....																			
Yellowness.....																			
Nonlint (S.A.).....																			
2.5% span length.....																			
Micronaire.....																			
Standard Error (±).....																			

* Statistically insignificant

* Statistically insignificant

Table 15.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 68 short staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections		
	Coarse 8s	Fine 22s	Lbs.	Coarse 8s	Fine 22s	Pct.	Coarse 8s	Fine 22s	Index	Coarse 8s	Fine 22s	No.
Picker & card waste	Pct.											No.
Color of 22s yarn												
										Gray yarn	Bleached yarn	Dyed yarn
										Index	Index	Index
Mean Values for:												
Dependent variable.....	7.1	86	293	7.2	6.2	112	120	112	112	63	40	38
2.5% span length.....	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Micronaire.....	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Fiber str. (1/8" gage)....	20	20	20	20	20	20	20	20	20	20	20	20
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage)....	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
Standard Deviation (±) for:												
Dependent variable.....	1.42	4.7	14.1	.63	.62	.62	7.0	11.2	11.2	27.7	17.0	5.0
2.5% span length.....	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Micronaire.....	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93	.93
Fiber str. (1/8" gage)....	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Uniformity ratio.....	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Elongation (1/8" gage)....	.67	.67	.67	.67	.67	.67	.67	.67	.67	.67	.67	.67
Simple Correlation Coef. for:												
2.5% span length.....	-.44	.15	.15	.26	.15	.15	.28	.05	.05	-.30	-.33	+.68
Micronaire.....	-.50	-.30	-.30	-.32	-.52	-.52	+.50	+.05	+.05	-.71	-.68	+.11
Fiber str. (1/8" gage)....	+.01	+.55	+.55	+.48	+.02	+.02	-.07	+.04	+.04	-.02	-.02	+.25
Uniformity ratio.....	-.05	+.11	+.11	-.23	-.26	-.26	+.37	+.42	+.42	-.30	-.33	-.09
Elongation (1/8" gage)....	-.18	+.14	+.14	+.70	+.67	+.67	-.12	-.23	-.23	+.07	+.04	+.26
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE												
Multiple Cor. Coef.....	.56	.42	.42	.54	.65	.65	.68	.53	.53	.71	.69	.71
Partial Cor. Coef. for:												
2.5% span length.....	-.30	+.31	+.31	+.46	+.47	+.47	-.00	-.20	-.20	-.01	-.06	+.70
Micronaire.....	-.39	-.40	-.40	-.49	-.64	-.64	+.65	+.53	+.53	-.68	-.64	-.27
Beta Coefficients for:												
2.5% span length.....	-.28*	+.33*	+.33*	+.48	+.44	+.44	-.00*	-.19*	-.19*	-.00*	-.05*	+.77
Micronaire.....	-.38	-.43	-.43	-.52	-.70	-.70	+.69	+.58	+.58	-.71	-.66	-.21*
Regression Equation:												
Constant (a).....	+17.13	+228.93	+228.93	+68.17	+2.68	+2.71	+100.53	+126.98	+126.98	+146.15	+102.02	-32.67
Regression Coef. for:												
2.5% Span Length.....	-8.23	+94.50	+94.50	+6.17	+5.55	+5.55	-.35	-43.62	-43.62	-2.79	-17.40	+78.97
Micronaire.....	-.59	-6.60	-6.60	-.36	-.47	-.47	+5.20	+7.08	+7.08	-21.24	-12.16	-1.16
Standard Error (±).....	1.17	12.83	12.83	.53	.47	.47	5.12	9.52	9.52	19.43	12.35	3.55
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE												
FIBER STR. (1/8" GAGE)												
Multiple Cor. Coef.....	.56	.64	.64	.55	.65	.65	.68	.54	.54	.72	.69	.73
Partial Cor. Coef. for:												
2.5% span length.....	-.29	+.29	+.29	+.46	+.47	+.47	-.00	-.22	-.22	+.01	-.05	+.70
Micronaire.....	-.39	-.38	-.38	-.50	-.64	-.64	+.65	+.54	+.54	-.68	-.64	-.24
Fiber str. (1/8" gage)....	-.01	+.54	+.54	+.45	-.03	-.03	+.01	+.13	+.13	-.14	-.12	+.25
Beta Coefficients for:												
2.5% span length.....	-.28*	+.26*	+.26*	+.49	+.44	+.44	-.00*	-.21*	-.21*	+.01*	-.04*	+.74
Micronaire.....	-.38	-.35	-.35	-.53	-.71	-.71	+.69	+.60	+.60	-.73	-.68	-.19*
Fiber str. (1/8" gage)....	-.01*	+.49	+.49	-.08*	-.03*	-.03*	+.01*	+.11*	+.11*	-.10*	-.09*	+.18*
Regression Equation:												
Constant (a).....	+17.30	+95.92	+95.92	+29.17	+3.60	+3.60	+99.83	+102.77	+102.77	+197.85	+131.19	-49.57
Regression Coef. for:												
2.5% span length.....	-8.20	+74.18	+74.18	+6.31	+5.60	+5.60	-.46	-47.32	-47.32	+5.11	-12.95	+76.38
Micronaire.....	-.59	-5.37	-5.37	-.37	-.47	-.47	+5.20	+7.30	+7.30	-21.71	-12.43	-1.01
Fiber str. (1/8" gage)....	-.01	+7.37	+7.37	-.05	-.02	-.02	+.04	+.134	+.134	-.86	-1.62	+.94
Standard Error (±).....	1.17	10.83	10.83	.53	.47	.47	5.12	9.44	9.44	19.25	12.26	3.44

* Statistically insignificant

Table 15.--Continued

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections		
	Pct.	Lbs.	Pct.	Pct.	Index	No.	Coarse 8s	Fine 22s	Index	Coarse 8s	Fine 22s	Spinning Potential
Picker & card waste												
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO												
Multiple Cor. Coef. for:												
Partial Cor. Coef. for:												
2.5% span length.....	.57	.68	.62	.55	.66	.70	.57	.72	.69	.73	.37	.70
Micronaire.....	-.25	+.39	+.34	+.46	+.48	+.06	-.14	+.01	-.08	+.68	-.18	+.14
Fiber str. (1/8" gage)....	-.37	-.47	-.42	-.47	-.61	+.53	+.40	-.62	-.55	-.25	+.23	+.51
Uniformity ratio.....	+.08	+.47	+.37	-.11	+.07	-.05	+.06	-.13	-.09	+.21	-.16	+.00
Beta Coefficients for:												
2.5% span length.....	-.26*	+.38	+.35*	+.51	+.48	+.05*	-.14*	+.01*	-.07*	+.78	-.21*	+.12*
Micronaire.....	-.43	-.52	-.48	-.58	-.77	+.59	+.48	-.72	-.63	-.23*	+.29*	+.55
Fiber str. (1/8" gage)....	-.03*	+.42	+.34	-.10*	-.06*	-.04*	+.06*	-.09*	-.07*	+.15*	-.16*	+.00*
Uniformity ratio.....	+.08*	+.29*	+.35*	+.08*	+.11*	+.16*	+.21*	-.01*	-.08*	+.08*	+.07*	+.20*
Regression Equation:												
Constant (a).....	+12.92	-64.01	-34.73	+1.65	+4.40	+57.56	+12.90	+209.80	+185.44	-66.41	+112.27	+45.19
Regression Coef. for:												
2.5% span length.....	-7.42	+108.71	+33.63	+6.63	+6.05	+7.07	-31.65	+2.98	-22.78	+80.36	-14.85	+11.71
Micronaire.....	-.66	-7.90	-2.45	-.40	-.51	+4.51	+5.81	-21.52	-11.53	-1.27	+1.12	+2.88
Fiber str. (1/8" gage)....	-.04	+6.21	+1.69	-.07	-.04	-.28	+.66	-.27	-1.20	+.82	-.60	+.02
Uniformity ratio.....	+1.0	+3.59	+1.45	+.05	+.06	+.99	+2.12	-.28	-1.27	+3.7	+.22	+8.5
Standard Error (±).....	1.17	10.31	3.71	.53	.46	5.03	9.24	19.25	12.20	3.42	3.27	3.43
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)												
Multiple Cor. Coef. for:												
Partial Cor. Coef. for:												
2.5% span length.....	.60	.69	.63	.78	.83	.70	.58	.72	.70	.74	.41	.80
Micronaire.....	-.17	+.33	+.28	+.34	+.36	+.07	-.09	+.04	-.04	+.64	-.12	-.06
Fiber str. (1/8" gage)....	-.42	-.43	-.37	-.39	-.60	+.51	+.37	-.62	-.56	-.20	-.18	+.64
Uniformity ratio.....	-.09	+.49	+.40	+.06	+.11	-.06	+.03	-.14	-.11	+.24	-.20	+.15
Elongation (1/8" gage)....	+.09	+.30	+.07	+.12	+.12	+.18	-.11	-.09	-.09	+.09	+.07	+.23
Beta Coefficients for:												
2.5% span length.....	-.17*	+.33*	+.29*	+.28*	+.27	+.06*	-.10*	+.03*	-.03*	+.74	-.14*	-.04*
Micronaire.....	-.51	-.47	-.42	-.37	-.58	+.58	+.44	-.74	-.66	-.19*	+.12*	+.70
Fiber str. (1/8" gage)....	-.08*	+.44	+.38	+.04*	+.07*	-.04*	+.03*	-.11*	-.09*	+.18*	-.20*	+.10*
Uniformity ratio.....	+.09*	+.28*	+.34*	+.05*	+.09*	+.16*	+.22*	-.01*	-.08*	+.08*	+.08*	+.18*
Elongation (1/8" gage)....	-.22*	+.12*	+.15*	+.60	+.55	-.03*	-.10*	-.07*	-.08*	+.12*	-.18*	+.41
Regression Equation:												
Constant (a).....	+15.21	-76.93	-40.10	-1.19	-2.11	+58.97	+21.56	+224.00	+195.56	-70.69	+117.00	+30.38
Regression Coef. for:												
2.5% span length.....	-4.97	+94.53	+27.76	+3.60	+3.37	+8.58	-22.38	+18.21	-11.91	+75.59	-9.75	-4.20
Micronaire.....	-.78	-7.22	-2.16	-.25	-.38	+4.43	+5.36	-22.26	-12.06	-1.04	+.87	+3.65
Fiber str. (1/8" gage)....	-.12	+6.64	+1.87	+.03	+.05	-.33	+.37	-3.24	-1.54	+.96	-.76	+.51
Uniformity ratio.....	+.12	+3.52	+1.41	+.03	+.05	+1.00	-2.17	-.19	-1.21	+.34	+.25	+2.99
Elongation (1/8" gage)....	-.46	+2.63	+1.09	+.57	+.50	-.28	-1.74	-2.86	-2.04	+.88	-.96	+2.91
Standard Error (±).....	1.13	10.18	3.65	.40	.35	5.03	9.18	19.17	12.14	3.38	3.21	2.91

* Statistically insignificant

Table 16.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 317 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
Mean Values for:	Pct.	Lbs.	Pct.	Lbs.	Pct.	Index	Pct.	Index	No.	Index	Index	Index
Dependent variable.....	6.0	37	6.3	4.7	113	88	23	18	62	93	103	110
Grade index.....	91	91	91	91	91	91	91	91	91	91	91	91
Staple length.....	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Micronaire.....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Fiber strength (0 gage).....	83	83	83	83	83	83	83	83	83	83	83	83
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deviations (±) for:												
Dependent variable.....	1.10	12.4	.60	.64	11.1	9.1	13.5	9.9	8.9	5.0	2.9	4.3
Grade index.....	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Staple length.....	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Fiber strength (0 gage).....	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Uniformity ratio.....	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Simple Correlation Coef. for:												
Grade index.....	-.78	.45	-.09	-.06	.28	.24	-.32	-.32	.37	.73	.19	.37
Staple length.....	-.44	.54	.08	.23	.22	.24	-.45	-.46	.73	.34	.17	.44
Micronaire.....	-.33	-.13	-.29	-.17	.38	.43	-.67	-.66	.02	.10	.20	.37
Fiber strength (0 gage).....	-.34	.75	-.54	-.47	.32	.25	-.01	-.08	.50	.26	-.37	.10
Uniformity ratio.....	-.20	.36	-.26	-.17	.46	.48	-.27	-.32	.34	.01	-.07	.34
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRADE INDEX, STAPLE LENGTH												
Multiple Cor. Coef. ....	.79	.60	.16	.28	.30	.29	.47	.48	.73	.73	.21	.49
Partial Cor. Coef. for:												
Grade index.....	-.73	.30	-.14	-.17	.21	.17	-.17	-.17	.12	.69	.13	.23
Staple length.....	-.22	.44	.13	.27	.12	.16	-.37	-.38	.68	.08	.11	.34
Beta Coefficients for:												
Grade index.....	-.72	.27	-.15*	-.18	.23	.18	-.16*	-.17	.09*	.71	.14*	.23
Staple length.....	-.15	.43	.14*	.30	.13*	.16*	-.39	-.39	.69	.06*	.11*	.35
Regression Equation:												
Constant (a).....	+23.73	-104.58	+5.34	+1.11	+31.86	+19.08	+208.34	+156.87	-127.37	+26.58	+87.04	+51.35
Regression Coef. for:												
Grade index.....	-.14	.60	-.02	-.02	.45	.29	-.39	-.30	.14	.63	.07	.17
Staple length.....	-.14	.44	.07	.16	.17	.25	.43	-.32	.13	.25	.28	.23
Standard Error (±).....	.68	9.93	.59	.61	10.57	8.70	11.84	8.66	6.07	3.40	2.86	3.73
DEPENDENT VARIABLE with												
GRADE INDEX, STAPLE LENGTH,												
MICRONAIRE												
Multiple Cor. Coef. ....	.80	.70	.36	.35	.43	.46	.72	.72	.77	.74	.25	.53
Partial Cor. Coef. for:												
Grade index.....	-.73	.37	-.11	-.15	.19	.14	-.13	-.14	.16	.70	.12	.21
Staple length.....	-.16	.56	.22	.33	.03	.05	-.27	-.28	.72	.11	.06	.28
Micronaire.....	-.21	.45	-.32	-.23	.32	.37	-.62	-.61	-.35	-.12	.14	.26
Beta Coefficients for:												
Grade index.....	-.70	.31	-.12*	-.16*	.19	.14*	-.10*	-.11*	.11*	.72	.12*	.20
Staple length.....	-.11*	.54	.24	.36	.03*	.05*	-.22	-.23	.76	.08*	.07*	.28
Micronaire.....	-.14	.38	-.34	-.23	.33	.38	-.58	-.56	-.25	-.08*	.15*	.24
Regression Equation:												
Constant (a).....	+23.51	-111.57	+5.05	.89	+37.24	+24.20	+196.89	+148.64	-130.68	+25.96	+87.67	+52.85
Regression Coef. for:												
Grade index.....	-.14	.69	-.01	-.02	.38	.22	-.24	-.19	.18	.64	.07	.16
Staple length.....	-.10	.56	.12	.19	.30	.42	-.24	-.19	.56	.35	.17	.99
Micronaire.....	-.30	.46	-.40	-.29	.72	.92	-15.51	-11.13	.48	-.83	.86	+2.03
Standard Error (±).....	.66	8.88	.56	.60	10.00	8.07	9.33	6.90	5.69	3.38	2.83	3.61

* Statistically insignificant

Table 16.--Continued

Statistical Items	Dependent Variables													
	Picker & card waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential		Color of 22s yarn	
	Pct.	Lbs.	Coarse 22s	Fine 50s	Pct.	Pct.	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	No.	No.	Gray yarn	Bleached yarn
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (O GAGE)														
Multiple Cor. Coef. ....	.80	.87			.67	.72	.51	.50	.73	.72	.81		.74	.55
Partial Cor. Coef. for:														
Grade index.....	-.70	+.08	+.04	+.05	+.13	+.05	+.09	+.06	-.17	-.15	+.02		+.69	+.30
Staple length.....	-.15	+.61	+.67	+.50	+.42	+.50	-.03	+.01	-.29	-.29	+.72		+.12	+.18
Micronaire.....	-.22	-.50	-.50	-.37	-.51	-.37	-.37	+.41	-.61	-.60	-.32		+.08	+.24
Fiber str. (O gage).....	-.05	+.73	+.62	-.61	-.68	-.61	+.30	+.23	+.14	+.05	+.40		-.08	-.50
Beta Coefficients for:														
Grade index.....	-.69	+.05*	+.02*	+.04*	+.10*	+.04*	+.09*	+.06*	-.14	-.12*	+.01*		+.73	+.31
Staple length.....	-.10*	+.43	+.55	+.49	+.37	+.49	-.03*	+.01*	-.24	-.24	+.71		+.10*	+.18
Micronaire.....	-.14	-.30	-.33	-.32	-.44	-.32	+.37	+.41	-.56	-.56	-.21		-.09*	+.07*
Fiber str. (O gage).....	-.04*	+.58	+.47	-.63	-.70	-.63	+.30	+.22	+.11*	+.04*	+.29		-.06*	-.54
Regression Equation:														
Constant (a).....	+23.55	-111.99	-82.74	+1.84	+6.08	+1.84	+30.63	+20.05	+194.26	+147.95	-135.12		+26.77	+90.78
Regression Coef. for:														
Grade index.....	-.14	+.11	+.03	+.00	+.01	+.00	+.18	+.10	-.34	-.22	+.02		+.66	+.16
Staple length.....	-.10	+.45	+.28	+.26	+.19	+.26	-.23	+.09	-2.72	-1.98	+.25		+.43	+.15
Micronaire.....	-.31	-7.43	-4.08	-.41	-.52	-.41	+8.20	+7.49	-15.09	-11.02	-3.77		-.91	+.41
Fiber str. (O gage).....	-.01	+1.03	+.42	-.06	-.06	-.06	+.47	+.29	+.21	+.06	+.36		-.04	-.23
Standard Error (±).....	.66	6.07	3.33	.47	.41	.47	9.56	7.86	9.23	6.89	5.21		3.37	2.44
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (O GAGE), UNIFORMITY RATIO														
Multiple Cor. Coef. ....	.80	.89			.68	.73	.56	.57	.73	.72	.83		.74	.55
Partial Cor. Coef. for:														
Grade index.....	-.70	+.16	+.11	+.07	+.14	+.07	+.14	+.12	-.18	-.16	+.07		+.68	+.30
Staple length.....	-.15	+.63	+.69	+.50	+.42	+.50	-.04	+.00	-.29	-.28	+.74		+.13	+.18
Micronaire.....	-.17	-.59	-.58	-.38	-.51	-.38	+.25	+.27	-.56	-.54	-.42		-.08	+.06
Fiber str. (O gage).....	-.02	+.66	+.52	-.60	-.66	-.60	+.17	+.08	+.14	+.08	+.27		-.04	-.48
Uniformity ratio.....	-.06	+.37	+.36	+.12	+.11	+.12	+.29	+.32	-.03	-.08	+.31		-.08	+.03
Beta Coefficients for:														
Grade index.....	-.70	+.09*	+.07*	+.06*	+.11*	+.06*	+.14*	+.11*	-.14	-.13*	+.05*		+.72	+.31
Staple length.....	-.10*	+.42	+.55	+.49	+.37	+.49	-.04*	+.00*	-.24	-.24	+.70		+.10*	+.18
Micronaire.....	-.12*	-.39	-.42	-.48	-.48	-.36	+.17*	+.28	-.55	-.53	-.30		-.06*	+.06*
Fiber str. (O gage).....	-.02*	+.49	+.37	-.68	-.74	-.68	+.17*	+.08*	+.12*	+.07*	+.19		-.03*	-.56
Uniformity ratio.....	-.05*	+.22	+.23	+.11*	+.09*	+.11*	+.30	+.32	-.02*	-.07*	+.22		-.06*	+.03*
Regression Equation:														
Constant (a).....	+24.79	-178.34	-117.57	+1.75	+4.75	+1.75	-147.53	-50.59	+202.02	+164.30	-181.95		+34.35	+88.64
Regression Coef. for:														
Grade index.....	-.14	+.21	+.08	+.01	+.01	+.01	+.27	+.18	-.35	-.23	+.08		+.65	+.16
Staple length.....	-.09	+.43	+.26	+.26	+.19	+.26	-.32	+.00	-2.71	-1.96	+.50		+.41	+.43
Micronaire.....	-.27	-9.66	-5.26	-.46	-.57	-.46	+5.49	+5.04	-14.82	-10.46	-5.39		-.65	+.34
Fiber str. (O gage).....	-.00	+.87	+.33	-.06	-.06	-.06	+.27	+.11	+.23	+.10	+.25		-.02	-.12
Uniformity ratio.....	-.04	+1.86	+.99	+.05	+.04	+.05	+2.27	+2.05	-.22	+.06	+1.35		+.06	+.80
Standard Error (±).....	.66	5.63	3.11	.47	.41	.47	9.15	7.46	9.23	6.86	4.95		3.35	2.44

* Statistically insignificant

Table 17.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests on 31/7 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections		
	Pct.	Lbs.	Fine 50s	Coarse 22s	Fine 50s	Pct.	Coarse 22s	Fine 50s	Index	Coarse 22s	Fine 50s	No.
Picker & card waste												
Mean Values for:												
Dependent variable.....	6.0	106	37	6.3	4.7	11.3	88	23	18	62	110	2
Grayness.....	2	2	2	2	2	2	2	2	2	2	2	2
Yellowness.....	3	3	3	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.).....	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
2.5% span length.....	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Micronaire.....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Standard Deviation (±) for:												
Dependent variable.....	1.10	12.4	6.2	.60	.64	11.1	9.1	13.5	9.9	8.9	2.9	4.3
Grayness.....	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yellowness.....	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
Nonlint content (S.A.).....	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2.5% span length.....	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Simple Correlation Coef. for												
Grayness.....	+.55	-.39	-.39	-.20	-.24	-.04	-.03	+.28	+.27	-.36	-.82	-.35
Yellowness.....	+.09	-.14	-.20	-.24	-.25	+.01	-.01	+.32	+.32	-.26	-.22	-.11
Nonlint Content (S.A.).....	+.80	-.19	-.19	+.01	-.04	-.21	-.20	+.47	+.44	-.46	-.22	-.34
2.5% span length.....	-.45	+.63	+.69	+.16	+.25	+.15	+.16	-.28	-.29	+.77	+.34	+.36
Micronaire.....	-.33	-.13	-.13	-.29	-.15	+.38	+.43	-.67	-.66	+.02	+.10	+.37
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS	.56	.39	.39	.27	.30	.04	.03	.36	.36	.39	.83	.35
Multiple Cor. Coef. for:												
Partial Cor. Coef. for:												
Grayness.....	+.55	-.37	-.35	-.13	-.16	-.04	-.02	+.19	+.17	-.30	-.82	-.34
Yellowness.....	-.15	+.01	-.06	-.18	-.18	+.02	-.00	+.24	+.24	-.14	+.17	+.03
Beta Coefficients for:												
Grayness.....	+.60	-.40	-.37	-.13*	-.17*	-.05*	-.02*	+.19	+.18	-.31	-.86	-.36
Yellowness.....	-.13*	+.01*	-.06*	-.18	-.19	+.02*	-.00*	+.25	+.25	-.14*	+.10	+.03*
Regression Equation:												
Constant (a).....	+.522	+115.74	+43.23	+6.92	+5.46	+113.31	+89.12	+3.54	+3.31	+73.56	+100.35	+112.76
Regression Coef. for												
Grayness.....	+.65	-.485	-.28	-.08	-.11	-.51	-.22	+.26	+.174	-.273	-.426	-.153
Yellowness.....	-.22	+.19	-.54	-.17	-.18	+.40	-.05	+.47	+.374	-.187	+.78	+.17
Standard Error (±).....	.92	11.41	5.72	.58	.61	11.07	9.08	12.53	9.25	8.20	2.82	3.99
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS,												
NONLINT (S.A.)												
Multiple Cor. Coef. for:	.81	.39	.40	.29	.31	.23	.23	.55	.53	.40	.83	.39
Partial Cor. Coef. for:												
Grayness.....	+.21	-.33	-.31	-.18	-.18	+.09	+.11	-.10	-.10	-.19	-.76	-.19
Yellowness.....	-.05	+.02	-.05	-.15	-.17	-.01	-.04	+.33	+.33	-.16	+.17	-.00
Nonlint (S.A.).....	+.70	+.04	+.04	+.13	+.09	-.22	-.23	+.44	+.42	-.11	+.02	-.18
Beta Coefficients for:												
Grayness.....	+.17	-.42	-.40	-.23	-.23	+.12*	+.14*	-.11*	-.11*	-.23	-.87	-.24
Yellowness.....	-.03*	+.02*	-.05*	-.16*	-.18*	-.01*	-.04*	+.32	+.32	-.16*	+.11	-.09*
Nonlint (S.A.).....	+.05*	+.05*	+.04*	+.15*	+.10*	-.27	-.28	+.50	+.47	-.13*	+.01*	-.21
Regression Equation:												
Constant (a).....	+.327	+114.27	+42.55	+6.69	+5.30	+120.80	+95.41	-.13.32	-.8.42	+.76.43	+100.17	+114.96
Regression Coef. for:												
Grayness.....	+.18	-.520	-.2.44	-.13	-.15	+.128	+.129	-.1.47	-.1.07	-.2.05	-.4.30	-.1.01
Yellowness.....	-.05	+.32	-.48	-.15	-.17	-.24	-.59	+.6.41	+.4.74	-.2.11	+.80	-.01
Nonlint (S.A.).....	+.80	+.61	+.28	+.09	+.07	-.3.07	-.2.58	+.6.92	+.4.81	-.1.17	+.07	-.90
Standard Error (±).....	.65	11.40	5.71	.57	.61	10.80	8.84	11.24	8.41	8.14	2.82	3.93

* Statistically insignificant

Table 17.--Continued

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn	
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn
GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH										No.	Index	Index
Multiple Cor. Coef. ....	.84	.67	.72	.34	.30	.26	.27	.56	.54	.77	.83	.32
Partial Cor. Coef. for:												
Grayness.....	+.20	-.17	-.13	-.15	-.15	+.12	+.15	-.12	-.13	-.05	-.74	-.17
Yellowness.....	+.14	+.17	+.11	-.14	-.14	+.01	-.01	+.30	+.30	-.00	+.19	-.08
Nonlint (S.A.).....	+.71	+.14	+.11	+.16	+.14	+.13	+.14	+.43	+.40	-.04	+.03	-.07
2.5% span length.....	-.38	+.59	+.65	+.08	+.08	+.16	+.16	-.11	-.14	+.72	+.11	+.02
Beta Coefficients for:												
Grayness.....	+.14	-.18	-.12*	-.19*	-.19*	+.16*	+.19*	-.14*	-.15*	-.04*	-.84	-.22
Yellowness.....	-.08*	+.14	+.09*	-.15*	-.15*	+.02*	-.01*	+.30	+.29	-.00*	+.12	-.08*
Nonlint (S.A.).....	+.67	+.13*	+.13*	+.12*	+.12*	-.25	-.26	+.49	+.45	-.03*	+.02*	-.08*
2.5% span length.....	-.25	+.60	+.66	+.08*	+.08*	+.14*	+.15*	-.10*	-.13*	+.73	+.07*	+.02*
Regression Equation:												
Constant (a).....	+10.12	-75.57	-62.51	+2.55	+5.40	+81.24	+61.04	+22.46	+25.26	-88.03	+91.20	+105.00
Regression Coef. for:												
Grayness.....	+.16	-2.18	-.77	-.11	-.11	+1.80	+1.73	-1.87	-1.43	-.38	-4.16	-.63
Yellowness.....	-.14	-2.67	+.82	-.13	-.13	+.25	-.16	+5.97	+4.32	-.05	+.91	-.35
Nonlint (S.A.).....	+.76	+1.66	+.86	+.10	+.08	-2.85	-2.39	+6.72	+4.62	-.25	+.12	-.25
2.5% span length.....	-5.90	+159.09	+88.04	+1.08	+2.31	+33.38	+29.01	-30.30	-28.55	+139.65	+7.54	+1.37
Standard Error (±).....	.60	9.21	4.34	.57	.60	10.70	8.76	11.17	8.32	5.62	2.80	2.77
GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE												
Multiple Cor. Coef. ....	.84	.72	.77	.42	.39	.40	.44	.77	.75	.79	.83	.36
Partial Cor. Coef. for:												
Grayness.....	+.21	-.09	-.03	-.07	-.08	+.05	+.06	+.03	+.02	+.01	-.74	-.20
Yellowness.....	+.14	+.16	+.10	-.16	-.14	+.03	+.01	+.34	+.33	-.02	+.20	-.07
Nonlint (S.A.).....	+.67	+.01	+.01	+.02	+.03	-.09	-.08	+.27	+.23	-.14	+.07	-.01
2.5% span length.....	-.36	+.64	+.71	+.14	+.20	+.07	+.07	+.01	-.03	+.75	+.09	-.01
Micronaire.....	-.09	-.35	-.39	-.31	-.19	+.31	+.37	-.64	-.62	-.27	+.10	+.17
Beta Coefficients for:												
Grayness.....	+.16	-.09*	-.03*	-.09*	-.09*	+.06*	+.08*	+.03*	+.02*	+.01*	-.86	-.27
Yellowness.....	-.09*	+.13*	+.07*	-.15*	-.15*	+.03*	+.01*	+.26	+.26	-.01*	+.12	-.07*
Nonlint (S.A.).....	+.65	+.01*	+.01*	+.02*	+.04*	-.11*	-.09*	+.24	+.21	-.11*	+.05*	-.01*
2.5% span length.....	-.24	+.65	+.72	+.15*	+.15*	+.08*	+.07*	+.01*	-.02*	+.77	+.06*	-.01*
Micronaire.....	-.05*	-.29	-.30	-.33	-.19	+.33	+.39	-.58	-.57	-.19	+.06*	+.18
Regression Equation:												
Constant (a).....	+10.42	-58.19	-53.40	+6.35	+3.15	+63.09	+43.74	+60.97	+53.35	-79.67	+89.65	+102.41
Regression Coef. for:												
Grayness.....	+.17	-1.08	-.19	-.05	-.07	+.71	+.70	+.36	+.18	+.09	-4.26	-.79
Yellowness.....	-.15	+2.38	+.67	-.15	-.14	+.56	+.13	+5.32	+3.85	-.19	+.94	-.31
Nonlint (S.A.).....	+.74	+.09	+.04	+.01	+.03	-1.23	-.84	+3.28	+2.12	-1.00	+.26	-.02
2.5% span length.....	-5.65	+173.99	+99.85	+1.90	+2.83	+17.92	+14.28	-2.37	-4.74	+146.73	+6.21	-.84
Micronaire.....	-.12	-7.11	-3.73	-.39	-.25	+7.38	+7.03	-15.59	-11.36	-3.38	+6.3	+1.05
Standard Error (±).....	.60	8.62	3.99	.54	.59	10.16	8.15	8.62	6.52	5.41	2.79	2.73

* Statistically insignificant

Table 18.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 317 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential		Color of 22s yarn	
	Pct.	Lbs.	Pct.	Pct.	Index	Index	Coarse 22s	Fine 50s	No.	No.	Gray yarn	Bleached yarn
Picker & card waste												
Coarse 22s												
Fine 50s												
Dyed yarn												
Index												
Mean Values for:												
Dependent variable.....	6.0	106	6.3	4.7	113	88	23	18	62	93	103	110
2.5% span length.....	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Micronaire.....	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Fiber str. (1/8" gage).....	23	23	23	23	23	23	23	23	23	23	23	23
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage).....	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Standard Deviation (\pm) for												
Dependent variable.....	1.10	12.4	.60	.64	11.1	9.1	13.5	9.9	8.9	5.0	2.9	4.3
2.5% span length.....	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Fiber str. (1/8" gage).....	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Uniformity ratio.....	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Elongation (1/8" gage).....	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82
Simple Correlation Coef. for:												
2.5% span length.....	-.45	+.63	+.16	+.25	+.15	+.16	-.28	-.29	+.77	+.34	+.15	+.36
Micronaire.....	-.33	-.13	-.29	-.15	+.38	+.43	-.67	-.66	+.02	+.10	+.20	+.37
Fiber str. (1/8" gage).....	-.37	+.86	-.20	-.10	+.20	+.13	-.01	-.05	+.70	+.31	-.24	+.19
Uniformity ratio.....	-.20	+.36	-.26	-.17	+.46	+.48	-.27	-.32	+.34	+.01	-.07	+.34
Elongation (1/8" gage).....	+.03	-.12	+.62	+.46	-.27	-.27	+.31	+.33	-.12	+.09	+.24	-.05
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE												
Multiple Cor. Coef.....	.50	.69	.37	.32	.39	.43	.68	.68	.78	.34	.22	.47
Partial Cor. Coef. for:												
2.5% span length.....	-.40	+.68	+.24	+.29	+.07	+.07	-.17	-.20	+.78	+.32	+.11	+.31
Micronaire.....	-.26	-.37	-.34	-.21	+.36	+.41	-.65	-.64	-.24	+.03	+.17	+.32
Beta Coefficients for:												
2.5% span length.....	-.39	+.69	+.24	+.30	+.07*	+.06*	-.13	-.15	+.81	+.33	+.11*	+.29
Micronaire.....	-.24	-.29	-.34	-.21	+.37	+.42	-.64	-.63	-.16	+.03*	+.17	+.31
Regression Equation:												
Constant (a).....	+18.42	-65.05	+4.68	+1.44	+61.53	+42.94	+137.77	+105.68	-93.22	+53.29	+91.51	+69.48
Regression Coef. for:												
2.5% span length.....	-9.31	+185.06	+3.05	+4.06	+15.84	+12.35	-37.72	-32.20	+153.91	+35.54	+6.87	+26.84
Micronaire.....	-.53	-7.25	-.41	-.27	+8.11	+7.94	-17.25	-12.42	-2.84	+.27	+1.01	+2.62
Standard Error (\pm).....	.95	8.98	.56	.60	10.22	8.18	9.81	7.27	5.51	4.71	2.85	3.77
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE												
FIBER STR. (1/8" GAGE)												
Multiple Cor. Coef.....	.55	.90	.56	.46	.45	.46	.68	.68	.85	.38	.40	.48
Partial Cor. Coef. for:												
2.5% span length.....	-.22	+.50	+.45	+.43	-.08	-.04	-.14	-.14	+.67	+.19	+.29	+.22
Micronaire.....	-.32	-.30	-.45	-.30	+.41	+.14	-.64	-.64	-.14	+.07	+.09	+.33
Fiber str. (1/8" gage).....	-.27	+.80	-.45	-.34	+.25	+.18	+.00	-.05	+.53	+.18	-.34	+.09
Beta Coefficients for:												
2.5% span length.....	-.24	+.30	+.52	+.52	-.09*	-.04*	-.13*	-.13*	+.59	+.22	+.33	+.24
Micronaire.....	-.30	-.14	-.45	-.30	+.43	+.46	-.64	-.64	-.08*	+.07*	+.09*	+.33
Fiber str. (1/8" gage).....	-.28	+.70	-.50	-.39	+.28	+.19	+.00*	-.04*	+.39	+.20	-.40	+.09*
Regression Equation:												
Constant (a).....	+18.30	-61.80	+4.57	+1.35	+62.69	+43.60	+137.77	+105.52	-91.91	+53.67	+91.06	+69.63
Regression Coef. for:												
2.5% span length.....	-5.58	+81.21	+6.66	+7.06	-21.43	-8.68	-37.79	-26.96	+112.18	+23.53	+21.03	+22.21
Micronaire.....	-.66	-3.55	-.53	-.38	+9.44	+8.29	-17.25	-12.61	-1.35	+.69	+.51	+2.79
Fiber str. (1/8" gage).....	-.15	+4.16	-.14	-.12	+1.49	+.84	+.00	-.21	+1.67	+.48	-.57	+.19
Standard Error (\pm).....	.92	5.37	.50	.57	9.89	8.05	9.81	7.26	4.69	4.64	2.67	3.75

* Statistically insignificant

Table 18.--Continued

Statistical Items	Dependent Variables												
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential		Color of 22s yarn		
	Pct.	Lbs.	Coarse 22s	Fine 50s	Pct.	Index	Coarse 22s	Fine 50s	No.	No.	Gray yarn	Bleached yarn	Dyed yarn
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef. ....	.56	.92			.46	.53	.55	.68	.87	.41	.40	.41	.51
Partial Cor. Coef. for:													
2.5% span length.	-.23	+.58	+.44	+.41	+.41	-.14	-.11	-.12	+.72	+.22	+.22	+.29	+.17
Micronaire.	-.30	-.48	-.40	-.26	-.26	+.27	+.29	-.58	-.30	+.13	+.13	+.11	+.22
Fiber str. (1/8" gage)....	-.27	+.77	-.41	-.32	-.32	+.13	+.05	-.02	+.42	+.22	+.22	-.31	+.00
Uniformity ratio.	+.04	+.46	-.04	-.02	-.02	+.31	+.34	-.06	+.37	-.14	-.14	-.06	+.20
Beta Coefficients for:													
2.5% span length.	-.24	+.33	+.44	+.52	+.52	-.15*	-.12*	-.11*	+.63	+.26	+.26	+.35	+.19
Micronaire.	-.32	-.25	-.43	-.29	-.29	+.28	+.30	-.61	-.18	+.14*	+.14*	+.11*	+.23
Fiber str. (1/8" gage)....	-.30	+.60	-.49	-.38	-.38	+.15*	+.05*	-.02*	+.30	+.26	+.26	-.38	+.00*
Uniformity ratio.	+.04*	+.24	-.04*	-.02*	-.02*	+.32	+.35	-.05*	+.23	-.15*	-.15*	-.06*	+.21
Regression Equation:													
Constant (a).....	+17.58	-135.63	-92.29	+4.87	+1.56	-.51	-11.26	+13.88	-145.97	+65.82	+65.82	+93.82	+55.02
Regression Coef. for:													
2.5% span length.	-5.78	+89.04	+59.13	+6.82	+7.18	-36.16	-23.55	-23.71	+119.50	+28.13	+28.13	+22.17	+17.29
Micronaire.	-.70	-6.25	-3.51	-.52	-.36	+6.17	+5.36	-12.12	-3.26	+1.40	+1.40	+.67	+1.96
Fiber str. (1/8" gage)....	-.16	+3.58	+.80	-.12	-.14	+.22	+.22	-.11	+1.27	+.63	+.63	-.53	+.01
Uniformity ratio.	+.03	+2.01	+1.00	-.01	-.01	+2.44	+2.19	-.37	+1.42	-.53	-.53	-.12	+.61
Standard Error (\pm).....	.92	4.76	2.32	.50	.57	9.41	7.58	7.25	4.35	4.59	4.59	2.67	3.68
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)													
Multiple Cor. Coef. ....	.59	.92			.54	.53	.55	.69	.88	.44	.44	.47	.52
Partial Cor. Coef. for:													
2.5% span length.	-.15	+.57	+.33	+.32	+.32	-.12	-.09	-.14	+.72	+.14	+.14	+.20	+.11
Micronaire.	-.37	-.46	-.19	-.09	-.09	+.22	+.24	-.50	-.33	+.21	+.21	+.21	+.26
Fiber str. (1/8" gage)....	-.33	+.74	-.26	-.19	-.19	+.11	+.03	+.01	+.36	+.28	+.28	-.20	+.06
Uniformity ratio.	+.03	+.46	+.47	-.02	-.01	+.30	+.34	-.06	+.37	-.14	-.14	-.05	+.21
Elongation (1/8" gage)....	-.22	-.08	-.02	+.46	+.33	-.04	-.04	+.09	-.15	+.21	+.21	+.25	+.15
Beta Coefficients for:													
2.5% span length.	-.16*	+.35	+.45	+.35	+.39	-.14*	-.10*	-.14*	+.66	+.17*	+.17*	+.25	+.13*
Micronaire.	-.43	-.27	-.29	-.19	-.10*	+.26	+.27	-.57	-.23	+.26	+.26	+.26	+.31
Fiber str. (1/8" gage)....	-.39	+.58	+.51	-.28	-.22	+.13*	+.03*	+.01*	+.26	+.37	+.37	-.26	+.07*
Uniformity ratio.	+.03*	+.23	+.23	-.02*	-.01*	+.32	+.35	-.05*	+.23	-.15*	-.15*	-.05*	+.21
Elongation (1/8" gage)....	-.22	-.04*	-.01*	+.47	+.36	-.04*	-.04*	+.08*	-.09*	+.23	+.23	+.28	+.15*
Regression Equation:													
Constant (a).....	+19.94	-131.36	-91.68	+2.22	-.58	+3.64	-7.54	+106.24	-138.40	+54.67	+54.67	+86.16	+48.76
Regression Coef. for:													
2.5% span length.	-3.81	+92.40	+59.61	+4.56	+5.35	-32.71	-20.44	-30.16	+125.41	+18.73	+18.73	+15.70	+12.03
Micronaire.	-.95	-6.70	-3.58	-.22	-.13	+5.72	+4.96	-11.28	-4.05	+2.62	+2.62	+1.51	+2.05
Fiber str. (1/8" gage)....	-.21	+3.49	+1.53	-.08	-.07	+.70	+.13	+.07	+1.10	+.88	+.88	-.36	+.15
Uniformity ratio.	+.02	+2.00	+1.00	-.01	-.01	+2.43	+2.18	-.35	+1.40	-.10	-.10	-.63	+.63
Elongation (1/8" gage)....	-.30	-.53	-.08	+.34	+.28	-.53	-.48	+.99	-.95	+1.44	+1.44	+.99	+.81
Standard Error (\pm).....	.90	4.74	2.32	.44	.53	9.41	7.57	7.21	4.30	4.49	4.49	2.59	3.64

* Statistically insignificant

Table 19.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 40 long staple samples, carded yarns, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables													Color of 22s yarn		
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Gray yarn		Bleached yarn		Dyed yarn	Index	Index
	Pct.	Lbs.	Pct.	Pct.	Index	Index	No.	No.		Index	Index	Index	Index			
Mean Values for:																
Dependent variable.....	9.4	116	6.5	5.3	102	79	25	22	72	93	103	92	109			
Grade index.....	92	92	92	92	92	92	92	92	92	92	92	92	92			
Staple length.....	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3			
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
Fiber strength (0 gage).....	86	86	86	86	86	86	86	86	86	86	86	86	86			
Uniformity ratio.....	44	44	44	44	44	44	44	44	44	44	44	44	44			
Standard Deviation (s) for:																
Dependent variable.....	.98	13.5	.34	.39	10.9	9.4	9.4	9.5	8.2	5.6	2.1	2.1	4.1			
Grade index.....	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1			
Staple length.....	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07			
Micronaire.....	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53			
Fiber strength (0 gage).....	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4			
Uniformity ratio.....	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7			
Simple Correlation Coef. for:																
Grade index.....	-.52	.87	.34	.46	-.37	-.29	.12	.10	.77	.81	.22	.22	.11			
Staple length.....	-.40	.76	.17	.35	-.34	-.28	.12	.08	.64	.54	.19	.32	.32			
Micronaire.....	-.11	-.57	-.31	-.21	.69	.59	-.51	-.60	-.50	-.42	.07	.07	.39			
Fiber strength (0 gage).....	-.34	.84	.16	.23	-.50	-.42	.23	.26	.71	.78	.09	.09	.07			
Uniformity ratio.....	-.25	.52	.27	.39	-.01	-.07	.06	.02	.50	.28	.08	.08	.28			
Multiple Cor. Data for:																
DEPENDENT VARIABLE with																
GRADE INDEX, STAPLE LENGTH																
Multiple Cor. Coef. for:	.53	.92	.34	.47	.40	.32	.13	.11	.81	.81	.23	.23	.33			
Partial Cor. Coef. for:																
Grade index.....	-.38	.81	.79	.34	-.23	-.16	.06	.07	.64	.72	.14	.14	.10			
Staple length.....	-.14	.63	.64	.11	-.16	-.14	.06	.03	.36	.14	.08	.08	.31			
Beta Coefficients for:																
Grade index.....	-.43*	.65	.62	.39*	-.26*	-.19*	.07*	.08*	.61	.75	.16*	.16*	.11*			
Staple length.....	-.11*	.38	.40	.12*	-.18*	-.17*	.08*	.04*	.28*	.10*	.09*	.09*	.38*			
Regression Equation:																
Constant (a).....	+19.64	-170.64	+5.41	+1.78	+207.33	+157.20	-7.92	.77	-70.72	+19.67	+92.30	+61.45	+61.45			
Regression Coef. for:																
Grade index.....	-.06	+1.22	.57	.02	-.40	-.25	.09	.11	.70	.59	.05	.05	.07			
Staple length.....	-.13	+4.81	+2.47	.04	-1.88	-1.51	.68	.32	+2.16	.53	.18	.18	+1.47			
Standard Error (±).....	.83	5.17	.32	.34	9.99	8.94	9.27	9.45	4.86	3.30	2.05	2.05	3.86			
DEPENDENT VARIABLE with																
GRADE INDEX, STAPLE LENGTH																
MICRONAIRE																
Multiple Cor. Coef. for:	.56	.93	.93	.47	.69	.59	.54	.64	.81	.81	.32	.32	.64			
Partial Cor. Coef. for:																
Grade index.....	-.43	.77	.74	.33	.04	.07	.18	.24	.58	.68	.22	.22	.17			
Staple length.....	-.16	.64	.65	.11	-.15	-.12	.03	.02	.35	.14	.10	.10	.41			
Micronaire.....	-.22	-.33	-.30	.04	.62	.53	-.53	.63	.18	-.02	.23	.23	.58			
Beta Coefficients for:																
Grade index.....	-.53*	.58	.56	.41*	.04*	.08*	-.21*	.26*	.55	.74	.28*	.28*	.18*			
Staple length.....	-.16*	.37	.39	.12*	-.13*	-.13*	.03*	.02*	.27*	.10*	.11*	.11*	.43*			
Micronaire.....	-.22*	-.15*	-.14*	.04*	.66	.58	-.61	.73	.12*	-.01*	.26*	.26*	.63			
Regression Equation:																
Constant (a).....	+23.10	-138.80	-85.13	+1.55	+91.85	+69.00	+83.12	+112.78	-54.53	+20.63	+83.57	+19.93	+19.93			
Regression Coef. for:																
Grade index.....	-.07	+1.09	.51	.02	.06	.10	-.27	.34	.64	.58	.08	.08	.10			
Staple length.....	-.15	+4.66	+2.41	.04	-1.35	-1.11	.27	.19	+2.08	.53	.22	.22	.66			
Micronaire.....	-.41	-3.73	-1.68	.03	+13.52	+10.33	-10.66	-13.12	-1.90	-.11	+1.02	+1.02	.86			
Standard Error (±).....	.81	4.88	2.44	.34	7.85	7.59	7.88	7.30	4.79	3.30	2.00	2.00	3.15			

*Statistically insignificant

Table 19.--Continued

Statistical Items	Dependent Variables												
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn imperfections			Spinning Potential
	Coarse 22s	Fine 50s	Lbs.	Coarse 22s	Fine 50s	Pct.	Coarse 22s	Fine 50s	Index	No.	Coarse 22s	Fine 50s	No.
Picker & card waste	Pct.	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	Index	Index	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (O GAGE)													
Multiple Cor. Coef.....	.57	.94	.94	.45	.55	.70	.60	.54	.82	.84	.33	.64	.64
Partial Cor. Coef. for:													
Grade index.....	-.37	+64	+59	+34	.44	.11	.12	.14	.41	.37	.22	.22	.05
Staple length.....	-.18	+57	+58	+05	.22	-.09	-.08	.02	.30	-.01	.12	.36	.36
Micronaire.....	-.17	-.20	-.15	-.27	.47	.56	.47	.49	.13	.15	.18	.57	.57
Fiber str. (O gage).....	+1.0	+32	+37	-.27	.32	-.13	.10	.02	.10	.39	-.09	.10	.10
Beta Coefficients for:													
Grade index.....	-.66*	+47	+42	+63*	.81*	+15*	+18*	-.23*	.48*	.42*	.41*	.07*	.07*
Staple length.....	-.20*	+31	+33	+06*	.25*	-.09*	-.09*	.02*	.24*	.15*	.15*	.40*	.40*
Micronaire.....	-.18*	-.09*	-.07*	-.31*	.10*	.61	.54	.60	.09*	.10*	.21*	.67	.67
Fiber str. (O gage).....	+1.6*	+22*	+26*	-.47*	.53*	-.17*	-.15*	.02*	.11*	.43*	-.16*	.14*	.14*
Regression Equation:													
Constant (a).....	+23.60	-140.11	-85.30	+6.00	.98	+89.50	+66.41	+83.70	-53.08	+27.06	+82.58	+21.57	+21.57
Regression Coef. for:													
Grade index.....	-.09	+89	+39	+03	.04	.23	.24	-.30	.55	.33	.12	.04	.04
Staple length.....	-.18	+3.97	+2.01	+02	.09	-.91	-.77	.21	.88	-.04	.30	.15	.15
Micronaire.....	-.33	-2.24	-.83	-.20	.07	+12.59	+9.61	-10.55	.45	+1.10	.85	.36	.36
Fiber str. (O gage).....	+0.02	+46	+26	-.03	.03	-.29	-.22	.04	.14	.38	-.05	.09	.09
Standard Error (\pm).....	.81	4.61	2.27	.31	.32	7.79	7.56	7.88	4.76	3.03	1.99	3.14	3.14
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (O GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.59	.95	.95	.49	.57	.70	.62	.61	.83	.86	.38	.64	.64
Partial Cor. Coef. for:													
Grade index.....	-.41	+46	+39	+21	.33	.14	.21	.30	.24	.49	.29	.05	.05
Staple length.....	-.21	+57	+59	+03	.21	-.08	-.06	.02	.28	.03	.15	.36	.36
Micronaire.....	-.24	-.35	-.33	-.33	.16	.54	.50	.57	.24	.25	.25	.93	.93
Fiber str. (O gage).....	+1.2	+38	+43	-.26	.31	-.13	-.12	.05	.13	.39	.11	.10	.10
Uniformity ratio.....	+2.0	+38	+41	+20	.17	-.08	-.20	.34	.28	-.35	-.21	-.02	-.02
Beta Coefficients for:													
Grade index.....	-.85*	+32	+27*	+42*	.64*	+21*	+36*	-.56*	.29*	.64	.63*	.09*	.09*
Staple length.....	-.23*	+29	+31	+03*	.23*	-.08*	-.06*	.02*	.22*	.02*	.18*	.40*	.40*
Micronaire.....	-.28*	-.17*	-.15*	-.42*	.19*	.65	.64	.77	.11*	.22*	.33*	.68	.68
Fiber str. (O gage).....	+1.19*	+24*	+28*	-.44*	.51*	-.18*	-.18*	.08*	.14*	.40*	-.20*	.14*	.14*
Uniformity ratio.....	+2.23*	+18*	+20*	+25*	.19*	-.08*	-.22*	.39*	.23*	.26*	-.27*	-.02*	-.02*
Regression Equation:													
Constant (a).....	+21.57	-163.30	-97.55	+5.21	.29	+97.60	+85.43	+49.73	-70.51	+40.67	+87.74	+22.22	+22.22
Regression Coef. for:													
Grade index.....	-.12	+61	+24	+02	.03	.33	.48	.73	.34	.50	.19	.05	.05
Staple length.....	-.21	+3.71	+1.88	+01	.08	-.82	-.56	.17	.68	.11	.36	.15	.15
Micronaire.....	-.51	-4.25	-1.90	-.27	.14	+13.31	+11.31	-13.61	.01	.23	.32	.21	.21
Fiber str. (O gage).....	+0.03	+51	+29	-.02	.03	-.31	-.27	.11	.35	.35	-.07	.09	.09
Uniformity ratio.....	+1.3	+1.40	.74	+05	.04	-.50	-1.19	.21	.08	-.86	-.33	-.04	-.04
Standard Error (\pm).....	.79	4.27	2.07	.30	.32	7.76	7.41	7.41	4.56	2.84	1.95	3.14	3.14

* Statistically insignificant

Table 20.---Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 40 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength			Yarn elongation			Yarn appearance			Yarn Imperfections		
	Picker & card waste	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Pct.	Coarse 22s	Fine 50s	Index	Coarse 22s	Fine 50s	No.
Mean Values for:	Pct.	Lbs.	Lbs.	Pct.	Pct.	Pct.	Index	Index	Index	No.	No.	No.
Dependent variable.....	9.4	116	43	6.5	5.3	5.3	102	79	25	22	72	109
Grayness.....	2	2	2	2	2	2	2	2	2	2	2	2
Yellowness.....	3	3	3	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.).....	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
2.5% span length.....	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Standard Deviation (±) for:												
Dependent variable.....	.98	13.5	6.5	.34	.39	.39	10.9	9.4	9.4	9.5	8.2	4.1
Grayness.....	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Yellowness.....	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
Nonlint content (S.A.).....	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53
Simple Correlation Coef. for:												
Grayness.....	+.52	-.80	-.78	-.31	-.43	-.43	+.35	+.26	-.05	-.11	-.63	-.05
Yellowness.....	-.05	-.01	-.14	-.14	-.11	-.11	-.01	+.03	+.10	-.03	+.06	+.04
Nonlint content (S.A.).....	+.55	-.57	-.57	-.03	-.13	-.13	+.22	+.20	+.02	-.08	-.50	-.03
2.5% span length.....	-.22	+.44	+.46	+.26	+.44	+.44	-.02	+.02	-.06	-.15	+.24	+.47
Micronaire.....	+.11	-.57	-.56	-.31	-.21	-.21	+.69	+.59	-.51	-.60	-.50	+.39
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS	.55	.81	.79	.32	.43	.43	.36	.26	.12	.11	.66	.07
Partial Cor. Coef. for:												
Grayness.....	+.54	-.81	-.79	-.29	-.42	-.42	+.36	+.26	-.07	-.11	-.66	-.06
Yellowness.....	-.18	+.23	+.23	-.09	-.03	-.03	-.08	-.01	+.11	-.01	+.23	+.05
Beta Coefficients for:												
Grayness.....	+.55	-.82	-.81	-.29*	-.42*	-.42*	+.37*	+.26*	-.07*	-.11*	-.67	-.06*
Yellowness.....	-.15*	+.14*	+.14*	-.09*	-.03*	-.03*	-.08*	-.01*	+.11*	-.01*	+.18*	+.05*
Regression Equation:												
Constant (a).....	+.933	+123.60	+46.14	+6.81	+5.60	+5.60	+100.11	+76.03	+20.89	+24.62	+72.76	+108.14
Regression Coef. for:												
Grayness.....	+.43	-.80	-.49	-.08	-.13	-.13	+.319	+1.95	-.53	-.82	-.435	-.19
Yellowness.....	-.28	+.349	+1.74	-.06	-.02	-.02	-.155	-.24	+.193	-.20	+2.76	+.38
Standard Error (±).....	.82	7.93	3.98	.33	.35	.35	10.17	9.12	9.28	9.44	6.19	4.08
DEPENDENT VARIABLE with												
GRAYNESS, YELLOWNESS,												
NONLINT (S.A.)	.60	.81	.80	.38	.47	.47	.36	.26	.15	.11	.66	.07
Multiple Cor. Coef. for:												
Partial Cor. Coef. for:												
Grayness.....	+.28	-.70	-.68	-.35	-.44	-.44	+.29	+.17	-.11	-.07	-.50	-.05
Yellowness.....	-.11	+.21	+.20	-.04	+.02	+.02	-.08	-.00	+.13	-.01	+.21	+.05
Nonlint (S.A.).....	+.30	-.08	-.09	+.22	+.20	+.20	-.03	+.05	+.09	-.01	-.10	+.01
Beta Coefficients for:												
Grayness.....	+.32*	-.78	-.76	-.48*	-.59*	-.59*	+.39*	+.22*	-.16*	-.10*	-.60	-.07*
Yellowness.....	-.09*	+.13*	+.13*	-.04*	+.02*	+.02*	-.08*	-.00*	+.14*	-.01*	+.16*	+.05*
Nonlint (S.A.).....	+.34*	-.06*	-.07*	+.28*	+.25*	+.25*	-.03*	+.06*	+.13*	-.01*	-.10*	+.01*
Regression Equation:												
Constant (a).....	+.837	+125.98	+47.50	+6.54	+5.32	+5.32	+101.10	+74.45	+17.52	+24.99	+75.21	+107.98
Regression Coef. for:												
Grayness.....	+.25	-.835	-.393	-.13	-.18	-.18	+.37	+.166	-.116	-.75	-.390	-.22
Yellowness.....	-.17	+.3.22	+1.58	-.02	+.01	+.01	-.166	-.06	+.232	-.24	+2.48	+.40
Nonlint (S.A.).....	+.29	-.72	-.41	+.08	+.08	+.08	-.30	+.48	+.102	-.11	-.74	+.05
Standard Error (±).....	.78	7.90	3.97	.32	.34	.34	10.16	9.11	9.24	9.44	6.16	4.08

* Statistically insignificant

Table 20.--Continued

Statistical Items	Dependent Variables															
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn					
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Pct.	Index	No.	Coarse 22s		Fine 50s	No.	Index	Gray yarn	Bleached yarn	Dyed yarn
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH																
Multiple Cor. Coef.....	.64	.88			.58	.42	.27	.37	.21	.77	.89	.41			.49	
Partial Cor. Coef. for:																
Grayness.....	+31	-.77	-.37	-.47	-.49*	-.37	+.16	+.29	-.06	-.60	-.85	-.38			-.10	
Yellowness.....	-.08	+.17	-.06	-.03	-.06*	-.09	-.01	-.09	+.01	+.17	+.18	-.00			-.00	
Nonlint (S.A.).....	+37	-.31	+.16	+.10	+.10*	-.04	+.03	+.04	+.12	-.28	+.19	+.27			-.15	
2.5% span length.....	-.27	+.61	+.18	+.39	+.39*	+.04	+.05	+.04	-.11	+.52	+.19	+.14			+.49	
Beta Coefficients for:																
Grayness.....	+35*	-.80	-.49*	-.59	-.49*	+.39*	+.22*	+.39*	-.14*	-.08*	-1.02	-.50*			-.12*	
Yellowness.....	-.07*	+.09*	-.06*	-.02*	-.06*	-.09*	-.01*	-.09*	+.01*	+.12*	+.09*	-.00*			-.00*	
Nonlint (S.A.).....	+.43*	-.22*	+.21*	+.11*	+.21*	-.05*	+.04*	+.04*	+.17*	-.26*	+.12*	+.35*			-.18*	
2.5% span length.....	-.23*	+.39	+.18*	+.36*	+.18*	+.04*	+.05*	+.04*	-.11*	+.41	+.09*	+.14*			+.51	
Regression Equation:																
Constant (a).....	+14.72	-14.67	+4.79	+1.37	+1.37	+87.67	+60.14	+74.55	+74.55	-20.87	+81.49	+93.87			+48.63	
Regression Coef. for:																
Grayness.....	+27	-4.17	-.13	-.18	-.13	+3.33	+1.62	-1.05	-.62	-4.26	-4.53	-.84			-.38	
Yellowness.....	-.12	+1.07	-.04	-.02	-.04	-1.76	-.16	+2.53	+.11	+1.80	+.90	-.00			-.02	
Nonlint (S.A.).....	+36	-1.26	+.06	+.04	+.06	-.46	+.31	+1.36	+.47	-1.87	+.59	+.65			-.65	
2.5% span length.....	-5.84	+66.77	+1.60	+3.62	+3.62	+12.36	+13.15	-27.15	-45.58	+88.53	+13.61	+7.74			+54.56	
Standard Error (±).....	.75	3.14	.31	.31	.31	10.15	9.10	9.19	9.30	5.25	2.55	1.92			3.56	
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE																
Multiple Cor. Coef.....	.68	.91	.49	.59	.49	.70	.60	.61	.66	.81	.89	.44			.64	
Partial Cor. Coef. for:																
Grayness.....	+39	-.77	-.28	-.42	-.28	+.09	-.04	+.12	+.20	-.53	-.84	-.41			-.27	
Yellowness.....	-.10	+.17	-.08	-.03	-.08	-.08	+.02	+.14	-.03	+.17	+.18	+.01			+.02	
Nonlint (S.A.).....	+.41	-.30	+.20	+.11	+.11	-.04	-.04	+.22	+.14	-.26	+.18	+.25			-.22	
2.5% span length.....	-.21	+.71	+.25	+.40	+.25	-.13	-.09	+.03	-.04	+.60	+.18	+.11			+.44	
Micronaire.....	-.29	-.50	-.28	-.11	-.28	+.65	+.55	-.59	-.64	-.41	+.05	+.17			+.47	
Beta Coefficients for:																
Grayness.....	+45*	-.69	-.36*	-.54*	-.36*	+.09*	-.04*	+.14*	+.22*	-.53	-1.03	-.58*			-.31*	
Yellowness.....	-.08*	+.08*	-.07*	-.03*	-.07*	-.06*	+.02*	+.12*	-.02*	+.11*	+.09*	+.01*			+.02*	
Nonlint (S.A.).....	+.46*	-.17*	+.25*	+.12*	+.25*	-.14*	-.04*	+.26*	+.15*	-.22*	+.12*	+.33*			-.24*	
2.5% span length.....	-.18*	+.43	+.45	+.38*	+.45	-.10*	-.08*	+.03*	-.03*	+.48	+.09*	+.10*			+.41*	
Micronaire.....	-.27*	-.30	-.32*	-.12*	-.32*	+.75	+.66	-.72	-.77	-.32*	+.03*	+.19*			+.50	
Regression Equation:																
Constant (a).....	+14.92	-11.63	+4.87	+1.40	+1.40	+81.51	+55.46	+52.16	+80.07	-18.85	+81.38	+93.57			+47.08	
Regression Coef. for:																
Grayness.....	+35	-3.58	-.10	-.17	-.10	+.82	-.32	+.102	+.166	-3.45	-4.57	-.97			-1.02	
Yellowness.....	-.14	+.92	-.04	-.02	-.04	-1.16	+.29	+.20	-.42	+1.61	+.91	+.03			+.12	
Nonlint (S.A.).....	+39	-1.06	+.07	+.04	+.07	-1.33	-.35	+2.09	+.125	-1.58	+.58	+.61			-.87	
2.5% span length.....	-4.47	+76.64	+2.16	+3.84	+2.16	-29.05	-18.52	+7.27	-8.33	+102.01	+12.87	+5.67			+44.11	
Micronaire.....	-.50	-3.64	-.21	-.08	-.21	+15.28	+11.68	-12.69	-13.74	-4.97	+.27	+.76			+3.86	
Standard Error (±).....	.72	5.46	.30	.31	.30	7.74	7.58	7.39	7.17	4.79	2.55	1.90			3.15	

Statistically insignificant

* Statistically insignificant

Table 21.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 40 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
Picker & card waste	Pct.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:												
Dependent variable.....	9.4	116	6.5	5.3	79	79	25	22	72	93	103	109
2.5% span length.....	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Fiber str. (1/8" gage).....	24	24	24	24	24	24	24	24	24	24	24	24
Uniformity ratio.....	44	44	44	44	44	44	44	44	44	44	44	44
Elongation (1/8" gage).....	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Standard Deviation (+) for:												
Dependent variable.....	.98	13.5	.34	.39	10.9	9.4	9.4	9.5	8.2	5.6	2.1	4.1
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53
Fiber str. (1/8" gage).....	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Uniformity ratio.....	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Elongation (1/8" gage).....	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
Simple Correlation Coef. for:												
2.5% span length.....	-.22	.44	.26	.44	-.02	.02	-.06	-.15	.45	.25	.24	.47
Micronaire.....	.11	-.57	-.31	-.21	.69	.59	-.51	-.60	-.50	-.42	.07	.39
Fiber str. (1/8" gage).....	-.45	.87	.32	.39	-.23	-.02	.02	-.02	.73	.29	.29	.35
Uniformity ratio.....	-.15	.52	.27	.39	-.07	-.07	.06	.02	.50	.28	.08	.28
Elongation (1/8" gage).....	.26	-.55	.11	.00	.36	.27	.01	-.05	-.41	-.57	-.14	-.09
Multiple Cor. Data for:												
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE	.26	.77	.43	.52	.70	.59	.51	.60	.72	.52	.25	.58
Partial Cor. Coef. for:												
2.5% span length.....	-.24	.64	.32	.48	-.16	-.07	.01	-.09	.60	.34	.24	.46
Micronaire.....	.14	-.71	-.36	-.31	.70	.59	-.51	-.59	-.63	-.48	.04	.37
Beta Coefficients for:												
2.5% span length.....	-.24*	.53	.31*	.48	-.12*	-.06*	.01*	-.07*	.53	.31*	.24*	.43
Micronaire.....	.14*	-.64	-.35*	-.28*	.70	.59	-.51	-.59	-.57	-.46	.04*	.33*
Regression Equation:												
Constant (a).....	+15.35	-34.32	.44.18	.55	+84.07	+54.40	+58.83	+84.58	-23.84	+59.34	+87.51	+46.12
Regression Coef. for:												
2.5% span length.....	-6.02	+185.27	+2.76	.44.77	-33.66	-14.56	+1.97	-17.84	+112.76	+5.64	+13.11	+45.35
Micronaire.....	.26	-16.27	-.23	-.20	+14.39	+10.54	-9.01	-10.48	-8.80	-4.90	.17	+2.56
Standard Error (+).....	.95	8.53	.31	.33	7.84	7.63	8.04	7.60	5.69	4.79	2.04	3.34
DEPENDENT VARIABLE with												
2.5% SPAN LENGTH, MICRONAIRE,												
FIBER STR. (1/8" GAGE)	.45	.95	.44	.58	.70	.59	.53	.62	.83	.78	.33	.63
Partial Cor. Coef. for:												
2.5% span length.....	.03	.29	.21	.27	-.14	-.02	.10	.05	.30	-.15	.06	.23
Micronaire.....	-.01	-.77	-.30	-.19	.67	.54	-.52	-.61	-.55	-.31	.13	.46
Fiber str. (1/8" gage).....	-.38	.87	.10	.30	.01	-.06	-.16	-.20	.61	.68	.23	.32
Beta Coefficients for:												
2.5% span length.....	.04*	.12*	.24*	.29*	-.12*	-.02*	.11*	.05*	.21*	-.12*	.07*	.23*
Micronaire.....	-.01*	-.41	-.31*	-.17*	.70	-.07*	-.57	-.65	-.40	-.23*	.13*	.44
Fiber str. (1/8" gage).....	-.47*	.70	.12*	.33*	.01*	-.07*	-.18*	-.21*	-.54	.74	.28*	.34*
Regression Equation:												
Constant (a).....	+13.22	+9.47	.44.37	.11.13	+84.44	+51.53	+51.09	+75.49	-3.40	+78.49	+90.28	+52.48
Regression Coef. for:												
2.5% span length.....	.96	.41.75	.24.14	.28.7	-34.90	-5.16	+27.31	+11.95	.45.77	-17.12	.44.04	+24.53
Micronaire.....	-.02	-10.49	-.20	-.12	+14.44	+10.16	-10.03	-11.67	-6.11	-2.38	.53	.40
Fiber str. (1/8" gage).....	-.20	.44.12	.02	.05	.04	.73	.793	-.86	+1.92	.26	.60	.37
Standard Error (+).....	.88	4.25	.31	.32	7.84	7.62	7.93	7.44	4.53	3.53	1.99	3.17

* Statistically insignificant

Table 21.--Continued

Statistical Items	Dependent Variables											
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
	Coarse 22s	Fine 50s	Pct.	Pct.	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.		Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO												
Multiple Cor. Coef. ....	.45	.96	.95	.47	.59	.60	.57	.66	.86	.78	.37	.63
Partial Cor. Coef. for:												
2.5% span length.....	+.02	+.32	+.35	+.07	+.17	+.04	-.06	-.13	+.26	-.05	+.14	+.22
Micronaire.....	-.01	-.82	-.80	-.34	-.23	+.66	-.56	-.64	-.61	+.27	+.17	+.46
Fiber str. (1/8" gage).....	-.33	+.81	+.79	+.01	+.18	-.00	-.26	-.31	+.45	+.66	+.28	+.30
Uniformity ratio.....	+.01	+.43	+.43	+.19	+.17	-.04	+.24	+.27	+.34	-.15	-.16	-.05
Beta Coefficients for:												
2.5% span length.....	+.03*	+.12*	+.14*	+.10*	+.19*	-.10*	-.08*	-.15*	+.18*	-.05*	+.21*	+.26*
Micronaire.....	-.02*	-.45	-.45	-.36*	-.21*	+.71	-.63	-.71	-.45	+.18*	+.45	+.45
Fiber str. (1/8" gage).....	-.47*	+.60	+.58	-.01*	+.22*	+.03*	-.34*	-.37*	+.39	+.81	+.40*	+.36*
Uniformity ratio.....	+.01*	+.17*	+.18*	+.21*	+.18*	-.03*	+.25*	+.26*	+.23*	-.12*	-.19*	-.04*
Regression Equation:												
Constant (a).....	+13.24	-30.14	-33.04	+4.58	+1.01	+82.69	+47.49	+90.40	-27.04	+78.02	+88.60	+52.44
Regression Coef. for:												
2.5% span length.....	+.84	+41.65	+24.23	+.89	+1.95	+12.36	-20.40	-37.64	-37.62	-6.96	+11.37	+27.23
Micronaire.....	-.03	-11.47	-5.53	-.23	-.15	+14.59	-11.02	-12.72	-6.92	-2.10	+.70	+3.47
Fiber str. (1/8" gage).....	-.20	+3.50	+1.64	-.00	+.04	-.14	-1.36	-1.52	+1.41	+1.98	+.37	+.65
Uniformity ratio.....	+.00	+1.34	.69	+.04	+.04	-.22	+1.38	+1.44	+1.26	-.23	-.23	-1.10
Standard Error (±).....	.88	3.83	1.96	.30	.31	7.83	7.70	7.17	4.26	3.49	1.96	3.16
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)												
Multiple Cor. Coef. ....	.45	.96	.97	.58	.66	.71	.57	.66	.86	.80	.37	.63
Partial Cor. Coef. for:												
2.5% span length.....	+.03	+.38	+.45	+.14	+.21	+.06	-.05	-.13	+.26	-.08	+.14	+.22
Micronaire.....	-.02	-.83	-.82	-.40	-.28	+.66	-.56	-.64	-.60	+.24	+.16	+.46
Fiber str. (1/8" gage).....	-.26	+.72	+.67	+.22	+.35	+.06	-.17	-.26	+.35	+.52	+.24	+.23
Uniformity ratio.....	-.01	+.54	+.59	+.03	+.02	-.12	+.19	+.25	+.35	-.05	-.16	-.03
Elongation (1/8" gage).....	+.04	-.38	-.49	+.38	+.36	+.22	+.09	-.01	-.09	-.23	+.02	-.04
Beta Coefficients for:												
2.5% span length.....	+.04*	+.13*	+.16*	+.17*	+.23*	-.06*	-.07*	-.15*	+.18*	-.07*	+.21*	+.25*
Micronaire.....	-.02*	-.44	-.43	-.40*	-.25*	+.69	-.64	-.71	-.44	-.18*	+.17*	+.46
Fiber str. (1/8" gage).....	-.44*	+.49	+.43	+.33*	+.51*	+.19*	-.26*	-.38*	+.34*	+.66	+.42*	+.33*
Uniformity ratio.....	-.01*	+.23	+.26	+.03*	+.03*	-.12*	+.22*	-.15*	+.26*	-.20*	-.04*	-.03*
Elongation (1/8" gage).....	+.05*	-.14*	-.19	+.44*	+.38*	+.21*	+.09*	-.01*	-.06*	-.19*	+.03*	-.04*
Regression Equation:												
Constant (a).....	+12.52	-17.68	-24.61	+2.33	-.86	+47.73	+30.67	+91.84	-22.51	+92.75	+87.69	+54.72
Regression Coef. for:												
2.5% span length.....	+1.03	+47.27	+27.97	+1.51	+2.30	+17.35	-15.93	-38.11	+38.28	-10.45	+11.64	+26.71
Micronaire.....	-.04	-11.13	-5.31	-.26	-.18	+10.36	-11.18	-12.70	-6.82	-.92	+.69	+3.50
Fiber str. (1/8" gage).....	-.19	+2.87	+1.21	+.05	+.09	+.35	-1.07	-1.55	+1.62	+.39	-.24	+.59
Uniformity ratio.....	-.01	+1.79	+.99	+.01	+.01	-.81	+1.18	+1.46	+1.24	-.13	-.24	-.06
Elongation (1/8" gage).....	+1.11	-4.09	-2.75	+.33	+.31	+4.89	+1.87	-.20	-1.14	-2.30	+.13	-.36
Standard Error (±).....	.88	3.55	1.71	.28	.29	7.64	7.53	7.17	4.24	3.40	1.96	3.16

* Statistically insignificant

Table 22.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 40 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables									
	Comber waste		Yarn skin strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Pct.	22s or 27 tex	50s or 12 tex	Index	Index	No.
Mean Values for:										
Dependent variable.....	16.9	133								
Grade index.....	92	92			5.5	6.8		91	13	11
Staple length.....	36.3	36.3			92	92		92	92	92
Micronaire.....	4.0	4.0			36.3	36.3		36.3	36.3	36.3
Fiber strength (0 gage).....	86	86			4.0	4.0		4.0	4.0	4.0
Uniformity ratio.....	44	44			86	86		86	86	86
Standard Deviation (±) for:					44	44		44	44	44
Dependent variable.....	2.44	6.5								
Grade index.....	7.1	7.1			.31	.32		10.9	6.8	6.1
Staple length.....	1.07	1.07			7.1	7.1		7.1	7.1	7.1
Micronaire.....	.53	.53			1.07	1.07		1.07	1.07	1.07
Fiber strength (0 gage).....	6.4	6.4			.53	.53		.53	.53	.53
Uniformity ratio.....	1.7	1.7			6.4	6.4		6.4	6.4	6.4
Simple Correlation Coef. for					1.7	1.7		1.7	1.7	1.7
Grade index.....	-.28	+.87			+.42	+.34		-.24	+.27	+.28
Staple length.....	-.37	+.72			+.11	+.11		-.28	+.23	+.17
Micronaire.....	-.26	-.64			-.17	-.17		+.61	-.51	-.64
Fiber strength (0 gage).....	-.09	+.89			+.01	+.01		-.40	+.36	+.36
Uniformity ratio.....	-.44	+.46			+.38	+.38		+.10	+.10	-.05
Multiple Cor. Data for:										
DEPENDENT VARIABLE with										
GRADE INDEX, STAPLE LENGTH										
Multiple Cor. Coef. ....	.38	.91			.42	.35		.29	.28	.28
Partial Cor. Coef. for:										
Grade index.....	-.08	+.79			+.38	+.34		-.10	+.17	+.23
Staple length.....	-.26	+.53			-.06	-.11		-.17	+.10	+.01
Beta Coefficients for:										
Grade index.....	-.10*	+.68			+.46*	+.42*		-.11*	+.20*	+.28*
Staple length.....	-.31*	+.32			-.07*	-.13*		-.21*	+.12*	+.01*
Regression Equation:										
Constant (a).....	+.45.79	-141.75			+.438	+.652		+184.62	-31.31	-21.97
Regression Coef. for:										
Grade index.....	-.03	+.132			+.02	+.02		-.17	+.19	+.24
Staple length.....	-.71	+.422			-.02	-.04		-2.14	+.06	
Standard Error (±).....	2.26	5.88			.28	.30		10.44	6.57	5.84
DEPENDENT VARIABLE with										
GRADE INDEX, STAPLE LENGTH,										
MICRONAIRE										
Multiple Cor. Coef. ....	.62	.93			.43	.35		.63	.51	.65
Partial Cor. Coef. for:										
Grade index.....	-.32	+.75			+.38	+.31		+.18	-.02	-.03
Staple length.....	-.34	+.56			-.05	-.11		-.16	+.07	-.04
Micronaire.....	-.53	-.49			+.10	-.01		+.59	-.44	-.60
Beta Coefficients for:										
Grade index.....	-.36*	+.57			+.51*	+.41*		+.19*	-.03*	-.03*
Staple length.....	-.36*	+.30			-.06*	-.13*		-.16*	+.08*	-.04*
Micronaire.....	-.57	-.24			+.10*	-.01*		+.66	-.49*	-.67
Regression Equation:										
Constant (a).....	+.68.20	-87.40			+.3.88	+.6.56		+.69.90	+.22.89	+.52.95
Regression Coef. for:										
Grade index.....	-.12	+.11			+.02	+.02		+.29	-.03	-.03
Staple length.....	-.82	+.3.97			-.02	-.04		-.1.61	+.49	-.24
Micronaire.....	-2.62	-6.37			+.06	-.00		+13.43	-6.35	-7.72
Standard Error (±).....	1.92	5.11			.28	.30		8.44	5.89	4.66

* Statistically insignificant

Table 22.--Continued

Statistical Items	Dependent Variables									
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		No.	No.
	Comber waste	Pct.	22s or 27 tex	50s or 12 tex	Ibs.	Pct.	22s or 27 tex	50s or 12 tex		
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)										
Multiple Cor. Coef. ....	.63		.95		.95	.57	.51	.64	.51	.65
Partial Cor. Coef. for										
Grade index.....	-.35		+56		+55	+47		+22	-.00	-.03
Staple length.....	-.38		+54		+07	+06		-.11	+07	-.04
Micronaire.....	-.46		-.43		-.22	-.03		+53	-.42	-.57
Fiber str. (0 gage).....	+.17		+49		-.48	-.30		-.13	-.02	+01
Beta Coefficients for:										
Grade index.....	+.54*		+35		+1.05	+89		+32*	-.01*	-.04*
Staple length.....	+.42*		+27		+08*	+07*		-.11*	+08*	-.05*
Micronaire.....	-.50		-.15*		-.23*	-.03*		+60	-.50*	-.67
Fiber str. (0 gage).....	+.26*		+33		-.84	-.50*		-.19*	-.03*	+.01*
Regression Equation:										
Constant (a).....	+69.61		-.91.56		+5.80	+3.43		+66.19	+22.40	+53.09
Regression Coef. for:										
Grade index.....	-.19		+79		+31	+04		+49	-.01	-.04
Staple length.....	-.96		+2.84		+1.62	+02		-1.12	+.54	-.26
Micronaire.....	-2.31		-3.95		-.14	-.02		+12.39	-6.45	-7.68
Fiber str. (0 gage).....	+1.0		+76		-.04	-.02		-.33	-.03	+.01
Standard Error with	1.89		4.41		.26	.27		8.37	5.89	4.66
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO										
Multiple Cor. Coef. ....	.64		.96		.96	.62	.59	.64	.54	.65
Partial Cor. Coef. for:										
Grade index.....	-.25		+45		+35	+40		+20	-.11	-.06
Staple length.....	-.37		+45		+54	+04		-.21	+05	-.05
Micronaire.....	-.38		-.45		-.54	-.32		+49	-.46	-.55
Fiber str. (0 gage).....	+.16		+54		+54	-.47		-.07	+00	+02
Uniformity ratio.....	-.13		+32		+39	+29		-.10	+21	+07
Beta Coefficients for:										
Grade index.....	-.43*		+29*		+21*	+77*		+33*	-.21*	-.10*
Staple length.....	-.41*		+20*		+25	+04*		-.22*	+06*	-.05*
Micronaire.....	-.44*		-.21*		-.26	-.37*		+61	-.61	-.70
Fiber str. (0 gage).....	+.24*		+37		+35	-.80		-.19*	+00*	+02*
Uniformity ratio.....	-.13*		+11*		+17*	+32*		-.11*	+24*	+07*
Regression Equation:										
Constant (a).....	+72.62		-.110.51		-67.57	+4.86		+67.86	+6.92	+49.09
Regression Coef. for:										
Grade index.....	-.15		+57		+19	+03		+51	-.20	-.09
Staple length.....	-.93		+2.63		+1.50	+01		-1.11	+37	-.30
Micronaire.....	-2.04		-5.58		-3.21	-.12		+12.59	-7.85	-8.04
Fiber str. (0 gage).....	+.09		+80		-.22	-.02		-.33	+00	+02
Uniformity ratio.....	-.19		+1.14		+06	+07		-.10	+97	+.25
Standard Error (+).....	1.88		4.18		1.87	.25		8.36	5.77	4.65

* Statistically insignificant

Table 23.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 40 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables									
	Comber waste		Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
	Pct.	Lbs.	22s or 27 tex	50s or 12 tex	Lbs.	Pct.	22s or 27 tex	50s or 12 tex	Index	No.
Mean Values for:										
Dependent variable.....	16.9	133								
Grayness.....	2	2				6.8	110	91	13	11
Yellowness.....	3	3				2	2	2	2	2
Nonlint content (S.A.).....	3.4	3.4				3	3	3	3	3
2.5% span length.....	1.16	1.16				3.4	3.4	3.4	3.4	3.4
Micronaire.....	4.0	4.0				1.16	1.16	1.16	1.16	1.16
Standard Deviation (±) for:						4.0	4.0	4.0	4.0	4.0
Dependent variable.....	2.44	13.9				.32	11.9	10.9	6.8	6.1
Grayness.....	1.3	1.3				1.3	1.3	1.3	1.3	1.3
Yellowness.....	.5	.5				.5	.5	.5	.5	.5
Nonlint content (S.A.).....	1.2	1.2				1.2	1.2	1.2	1.2	1.2
2.5% span length.....	.04	.04				.04	.04	.04	.04	.04
Micronaire.....	.53	.53				.53	.53	.53	.53	.53
Simple Correlation Coef. for:										
Grayness.....	+11	-.83				-.13	+26	+24	-.17	-.26
Yellowness.....	-.06	-.01				-.16	-.04	-.02	+13	+00
Nonlint content (S.A.).....	+11	-.59				-.10	+30	+23	-.16	-.23
2.5% span length.....	-.52	+36				+17	-.07	+03	+02	-.13
Micronaire.....	-.26	-.64				-.17	+60	+61	-.51	-.64
Multiple Cor. Data for:										
DEPENDENT VARIABLE with										
GRAYNESS, YELLOWNESS										
Multiple Cor. Coef. ....	.13	.84				.19	.27	.25	.24	.26
Partial Cor. Coef. for:										
Grayness.....	+12	-.84				-.10	+27	+25	-.20	-.26
Yellowness.....	-.08	+26				-.14	-.09	-.07	+16	+06
Beta Coefficients for:										
Grayness.....	+12*	-.85				-.10*	+27*	+26*	-.20*	-.27*
Yellowness.....	-.08*	+15*				-.14*	-.09*	-.07*	+16*	+05*
Regression Equation:										
Constant (a).....	+17.42	+141.08				+7.09	+110.57	+90.84	+9.33	+11.97
Regression Coef. for:										
Grayness.....	+24	-9.45				-.03	+2.57	+2.21	-1.10	-1.29
Yellowness.....	-.36	+3.75				-.08	-1.88	-1.38	+2.05	+61
Standard Error (±).....	2.42	7.57				.31	11.43	10.55	6.66	5.88
DEPENDENT VARIABLE with										
GRAYNESS, YELLOWNESS,										
NONLINT (S.A.)										
Multiple Cor. Coef. ....	.14	.84				.20	.32	.26	.24	.27
Partial Cor. Coef. for:										
Grayness.....	+07	-.74				-.03	+09	+14	-.13	-.15
Yellowness.....	-.07	+23				-.15	-.05	-.05	+15	+03
Nonlint (S.A.).....	+03	-.08				-.06	+17	+08	-.04	-.08
Beta Coefficients for:										
Grayness.....	+09*	-.82				-.05*	+12*	+18*	-.17*	-.20*
Yellowness.....	-.07*	+14*				-.16*	-.05*	-.05*	+16*	+04*
Nonlint (S.A.).....	+04*	-.06*				-.08*	+22*	+11*	-.05*	-.11*
Regression Equation:										
Constant (a).....	+17.12	+143.33				+7.17	+102.90	+87.43	+10.23	+13.83
Regression Coef. for:										
Grayness.....	+18	-9.03				-.01	+1.14	+1.57	-.93	-.94
Yellowness.....	-.32	+3.50				-.09	-1.00	-.99	+1.95	+39
Nonlint (S.A.).....	+09	-.68				-.02	+2.32	+1.03	-.27	-.56
Standard Error (±).....	2.42	7.55				.31	11.26	10.52	6.65	5.86

* Statistically insignificant

Table 23.--Continued

Statistical Items	Dependent Variables									
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		No.	No.
	Pct.	Lbs.	Pct.	Lbs.	Pct.	Index	Index	Index		
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH										
Multiple Cor. Coef.....	.56	.88	.27	.42	.33	.27	.24	.31		
Partial Cor. Coef. for:										
Grayness.....	+15	-.79	-.05	-.37	+10	+13	-.13	-.14		
Yellowness.....	-.01	+.21	-.17	+.07	-.04	-.05	+.15	+.05		
Nonlint (S.A.).....	+.22	-.23	-.11	+.12	-.19	+.07	-.03	-.03		
2.5% span length.....	-.55	+.47	+.19	+.23	-.08	+.05	+.00	-.16		
Beta Coefficients for:										
Grayness.....	+17*	-.84	-.07*	-.49*	+13*	+.18*	-.17*	-.18*		
Yellowness.....	-.01*	+.11*	-.18*	+.07*	-.04*	-.06*	+.16*	+.05*		
Nonlint (S.A.).....	+.26*	-.16*	-.15*	+.16*	+.26*	+.09*	-.05*	-.04*		
2.5% span length.....	-.57	+.27	+.20*	+.22*	-.08*	+.05*	+.00*	-.16*		
Regression Equation:										
Constant (a).....	+56.52	+37.84	+5.39	+3.40	+130.56	+71.03	+10.14	+41.88		
Regression Coef. for:										
Grayness.....	+33	-9.29	-.02	-.12	+1.22	+1.53	-.93	-.89		
Yellowness.....	-.04	+1.27	-.10	+.04	-.81	-.11	+1.95	+.59		
Nonlint (S.A.).....	+.55	-1.91	-.04	+.04	+2.64	+.84	-.27	-.24		
2.5% span length.....	-36.29	+96.94	+1.64	+1.83	-25.43	+15.06	+.08	-25.74		
Standard Error (\pm).....	2.03	6.67	.31	.28	11.22	10.50	6.65	5.79		
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE										
Multiple Cor. Coef.....	.63	.94	.32	.42	.64	.63	.55	.65		
Partial Cor. Coef. for:										
Grayness.....	+.26	-.78	+.01	-.34	-.12	-.09	+.06	+.09		
Yellowness.....	-.03	+.22	-.18	+.07	-.01	-.03	+.15	+.03		
Nonlint (S.A.).....	+.27	-.21	-.10	+.13	+.16	+.00	+.02	+.04		
2.5% span length.....	-.51	+.62	+.22	+.23	-.25	-.10	-.13	-.03		
Micronaire.....	-.34	-.59	-.17	-.05	+.58	+.59	-.51	-.60		
Beta Coefficients for:										
Grayness.....	+.30*	-.70	+.01*	-.47*	-.14*	-.10*	+.07*	+.10*		
Yellowness.....	-.02*	+.09*	-.19*	+.07*	-.01*	-.06*	+.13*	+.02*		
Nonlint (S.A.).....	+.30*	-.12*	-.13*	+.16*	+.17*	+.00*	+.03*	+.04*		
2.5% span length.....	-.50	+.34	+.24*	+.24*	-.22*	-.08*	+.12*	-.02*		
Micronaire.....	-.35*	-.35	-.21*	-.06*	+.68	+.70	-.61	-.71		
Regression Equation:										
Constant (a).....	+57.17	+41.47	+5.44	+3.41	+124.45	+65.29	+13.30	+45.09		
Regression Coef. for:										
Grayness.....	+.59	-7.78	+.00	-.12	-1.30	-.87	+.37	+.47		
Yellowness.....	-.11	+2.40	-.11	+.04	-.22	-.55	+1.64	+.28		
Nonlint (S.A.).....	+.65	-1.40	-.04	+.04	+1.77	+.02	+.17	+.23		
2.5% span length.....	-31.91	+121.58	+1.97	+1.92	-66.64	-23.82	+21.38	-3.82		
Micronaire.....	-1.61	-9.09	-.12	-.03	+15.20	+14.39	-7.86	-8.09		
Standard Error (\pm).....	1.91	5.41	.30	.28	9.11	8.48	5.73	4.62		

* Statistically insignificant

Table 24.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 40 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1971

Statistical Items	Dependent Variables									
	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		No.	No.
	Comber waste	Pct.	22s or 27 tex	50s or 12 tex	Pct.	22s or 27 tex	50s or 12 tex	Index	Index	50s or 12 tex
Mean Values for:										
Dependent variable.....	16.9	133	1.16	5.9	6.8	11.0	91	1.16	13	11
2.5% span length.....	1.16	1.16	1.16	5.5	1.16	1.16	1.16	1.16	1.16	1.16
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Fiber str. (1/8" gage).....	24	24	24	24	24	24	24	24	24	24
Uniformity ratio.....	44	44	44	44	44	44	44	44	44	44
Elongation (1/8" gage).....	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Standard Deviation (\pm) for:										
Dependent variable.....	2.44	13.9	.04	.32	.31	11.9	10.9	.04	6.8	6.1
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53
Fiber str. (1/8" gage).....	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Uniformity ratio.....	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Elongation (1/8" gage).....	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
Simple Correlation Coef. for:										
2.5% span length.....	-.52	.36	.17	.30	.17	-.07	.03	.03	.02	-.13
Micronaire.....	-.26	-.64	-.17	-.14	-.14	.60	.61	.61	.51	-.64
Fiber str. (1/8" gage).....	-.51	.80	.31	.40	.31	.35	.19	.19	.26	.17
Uniformity ratio.....	-.44	.46	.38	.49	.38	-.07	.10	.10	.10	-.05
Elongation (1/8" gage).....	.03	-.58	.23	.15	.23	.35	.29	.29	.14	-.19
Multiple Cor. Data for:										
DEPENDENT VARIABLE with										
2.5% SPAN LENGTH, MICRONAIRE										
Multiple Cor. Coef. ....	.56	.78	.81	.26	.35	.62	.62	.62	.51	.64
Partial Cor. Coef. for:										
2.5% span length.....	-.51	.58	.64	.20	.32	.19	.07	.07	.11	-.05
Micronaire.....	-.23	-.74	-.78	-.20	-.19	.61	.62	.62	.51	-.64
Beta Coefficients for:										
2.5% span length.....	-.49	.45	.49	.20*	.32*	.15*	.05*	.05*	.09*	-.04*
Micronaire.....	-.20*	-.70	-.72	-.20*	-.18*	.62	.62	.62	.52	-.64
Regression Equation:										
Constant (a).....	+56.89	+15.94	-10.15	+5.34	+2.89	+109.93	+58.09	+58.09	+20.26	+47.62
Regression Coef. for:										
2.5% span length.....	-31.43	+163.45	+81.67	+1.66	+2.64	.46.88	-14.89	-14.89	+16.57	-6.52
Micronaire.....	-.90	-18.29	-8.76	-.12	-.11	+13.81	+12.73	+12.73	-6.67	-7.30
Standard Error (\pm).....	2.03	8.76	3.76	.31	.29	9.35	8.59	8.59	5.88	4.66
DEPENDENT VARIABLE with										
2.5% SPAN LENGTH, MICRONAIRE,										
FIBER STR. (1/8" GAGE)										
Multiple Cor. Coef. ....	.67	.92	.93	.33	.42	.63	.62	.62	.52	.65
Partial Cor. Coef. for:										
2.5% span length.....	-.22	.17	.31	.04	.13	.04	.04	.04	.01	-.08
Micronaire.....	-.40	-.76	-.81	-.11	-.09	.55	.58	.58	.45	-.59
Fiber str. (1/8" gage).....	-.45	.79	.79	.21	.24	.19	.02	.02	.12	-.07
Beta Coefficients for:										
2.5% span length.....	-.21*	.08*	.14*	.05*	.16*	.04*	.04*	.04*	.02*	-.08*
Micronaire.....	-.35*	-.49	-.53	-.11*	-.09*	.56	.61	.61	.47	-.62
Fiber str. (1/8" gage).....	-.48	.63	.59	.26*	.29*	.19*	.02*	.02*	.13*	+.07*
Regression Equation:										
Constant (a).....	+51.47	+56.64	+7.39	+5.73	+3.31	+99.46	+56.94	+56.94	+24.47	+49.45
Regression Coef. for:										
2.5% span length.....	-13.65	+30.09	+24.19	.41	.26	-12.56	-11.11	-11.11	+2.75	-12.53
Micronaire.....	-1.62	-12.92	-6.45	-.07	-.05	+12.43	+12.58	+12.58	-6.11	-7.06
Fiber str. (1/8" gage).....	-.51	+3.83	+1.65	.04	.28	-.99	.11	.11	.40	-.17
Standard Error (\pm).....	1.81	5.44	2.31	.30	.28	9.18	8.59	8.59	5.83	4.65

* Statistically insignificant

Table 24.--Continued

Statistical Items	Dependent Variables									
	Comber waste	Yarn skein strength			Yarn elongation			Yarn appearance		Yarn imperfections
		22s or 27 tex	50s or 12 tex	Lbs.	Pct.	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	
	Pct.	Lbs.	Lbs.		Pct.		Index	Index	No.	No.
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO										
Multiple Cor. Coef. ....	.68	.93	.94		.43		.54	.63	.62	.65
Partial Cor. Coef. for:										
2.5% span length.										
Micronaire.	-.17	+16	+32		-.13		-.07	-.05	-.11	-.06
Fiber str. (1/8" gage)	-.37	-.79	-.84		-.19		-.19	+.54	+.55	-.58
Uniformity ratio.	-.35	+69	+70		+03		+02	-.17	-.08	+06
Beta Coefficients for:	-.11	+34	+37		+30		+38	+02	+12	-.01
2.5% span length.	-.17*	+07*	+14*		-.17*		-.08*	-.05*	-.13*	-.07*
Micronaire.	-.33*	-.53	-.57		-.19*		-.18*	+.55	+.59	-.61
Fiber str. (1/8" gage)	-.42*	+53	+49		+.04*		+.02*	-.20*	-.10*	+.07*
Uniformity ratio.	-.10*	+17*	+17*		+35*		+44*	+.02*	+.12*	-.01*
Regression Equation:										
Constant (a)	+52.59	+20.34	-10.42		+5.87		+3.20	+100.26	+63.20	+49.10
Regression Coef. for:										
2.5% span length.	-.10.88	+26.66	+23.52		-.139		-.66	-.16.45	-.36.30	-.11.15
Micronaire.	-.1.51	-13.91	-6.90		-.12		-.11	+12.34	+12.02	-7.03
Fiber str. (1/8" gage)	-.44	+3.20	+1.36		+01		+00	-.1.04	-.47	+19
Uniformity ratio.	-.15	+1.36	+63		+07		+08	+13	+78	-.04
Standard Error (±)	1.80	5.10	2.14		.29		.26	9.18	8.52	4.65
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)										
Multiple Cor. Coef. ....	.69	.94	.96		.59		.62	.64	.63	.65
Partial Cor. Coef. for:										
2.5% span length.										
Micronaire.	-.18	+22	+41		-.08		-.03	-.03	-.09	-.05
Fiber str. (1/8" gage)	-.36	-.81	-.86		-.26		-.24	+.53	+.55	-.58
Uniformity ratio.	-.39	+52	+52		+30		+23	-.09	-.03	+09
Elongation (1/8" gage)	-.03	+49	+54		+12		+25	-.02	+09	-.04
Beta Coefficients for:	-.18	-.44	-.49		+45		+37	+10	+.07	+.07
2.5% span length.	-.18*	+09*	+16*		-.10*		-.04*	-.04*	-.11*	-.06*
Micronaire.	-.31*	-.51	-.55		-.24*		-.22*	+.54	+.58	-.62
Fiber str. (1/8" gage)	-.55*	+36	+32		+.46*		+.34*	-.12*	-.04*	+.13*
Uniformity ratio.	-.03*	+25	+25		+.14*		+.27*	-.03*	+.09*	-.04*
Elongation (1/8" gage)	-.17*	-.21*	-.21		+.53*		+.41*	+.11*	+.07*	+.07*
Regression Equation:										
Constant (a)	+57.56	+41.83	-1.00		+3.46		+1.52	+81.25	+50.97	+42.69
Regression Coef. for:										
2.5% span length.	-.11.50	+33.75	+27.27		-.80		-.31	-10.98	-32.60	-9.21
Micronaire.	-.1.44	-13.39	-6.66		-.15		-.15	+12.12	+11.88	-7.10
Fiber str. (1/8" gage)	-.59	+2.21	+.90		+06		+05	-.62	-.20	+33
Uniformity ratio.	-.05	+2.06	+.95		+03		+05	-.17	+.59	-.14
Elongation (1/8" gage)	-.92	-6.41	-2.97		+37		+28	+2.73	+1.71	+.90
Standard Error (±)	1.77	4.58	1.87		.26		.24	9.13	8.50	4.64

* Statistically insignificant

MEASURES USED IN STATISTICAL ANALYSIS

Some of the statistical concepts used in this study may be unfamiliar to many who will find the information in this report useful. Results reported in this study include the means, standard deviations, simple and multiple correlation coefficients, beta values, partial correlation coefficients and regression equations for each cotton quality measurement. Formulas of each of these results may be found in any good textbook on statistical correlation. However, for those not familiar with these concepts the following common language explanation is given for each item as it is used in this report:

(1) Mean Value is the simple arithmetical average of each measured property for the spinning lots included in the study.

(2) Standard deviation is a measure of dispersion around the mean value, expressed in the same terms as the variable. For a normal distribution, approximately 68 percent of the values will be within plus or minus one standard deviation of the mean, 95 percent within plus or minus two standard deviations, and nearly all values will be within plus or minus three standard deviations.

Example: (from Table 16, column 1, page 89)

The mean or average value for picker and card waste, the dependent variable, is 6.0 percent and the standard deviation is 1.10 percent. This indicates that 68 percent of the lots tested in the medium staple group should contain between 4.9 and 7.1 percent waste (6.0 ± 1.10). Ninety five percent of the lots tested would have from 3.8 to 8.2 percent waste (6.0 ± 2.20) and nearly all of the test lots would show waste values between 2.7 and 9.3 percent (6.0 ± 3.30).

(3) Simple correlation coefficient (r) is a measure of the linear relationship between two variables, ie. how one variable is associated with the other. A correlation coefficient of 0 indicates no relationship, and 1.0 indicates a perfect relationship. A plus sign before the correlation coefficient indicates that the values for both variables change in the same direction, whereas a minus sign indicates that they change in opposite directions.

Example: (from Table 16, column 1, page 89)

The simple correlation coefficient (r) of grade index with picker and card waste is -.78. This indicates that grade index and picker and card waste are related. It further indicates by the - sign that as one goes up or down the other goes in the opposite direction.

(4) Multiple correlation coefficient (R) is a measure of the linear relationship between one dependent variable and two or more independent variables. It has no plus or minus sign because one independent variable may contribute positively, and another negatively, in explaining the variation in the dependent variable. The multiple R may fall between 0 and 1.0, with 0 indicating no relationship and 1.0 a perfect relationship.

Example: (from Table 16, column 1, page 89)

The multiple R for the dependent variable of picker and card waste with independent variables of grade index, staple length and micronaire is .80. This indicates that the combination of grade index, staple length and micronaire shows a definite relationship to picker and card waste. It does not explain, however, whether grade index, staple length and micronaire contribute positively or negatively to picker and card waste or which of the three is most important.

(5) Although the coefficient of determination (R^2 , or r^2) is not given, it may be easily obtained by squaring the simple r 's or multiple R 's and multiplying by 100. This gives the percentage of variation explained, a measure of the amount of variation in the dependent variable which is explained by variation in the independent variables.

Example:

The multiple R in the example above is .80. When this is squared and multiplied by 100 the result is 64.0. This means that 64.0 percent of the variation in picker and card waste is explained by grade index, staple length and micronaire. The remaining 36.0 percent of the variation is unexplained.

(6) Partial correlation coefficient (r) in a multiple analysis is similar to a simple correlation coefficient. The simple r indicates the statistical relationship between two variables without any control of other variables. In a multiple analysis, the partial correlation coefficient is one measure of the net relationship between one independent variable and the dependent variable while the influence of the other independent variables are statistically removed.

Example: (from Table 16, column 1, page 89)

The partial correlation coefficients (r) for picker and card waste with grade index, staple length and micronaire are: $-.73$ for grade index, $-.16$ with staple length and $-.21$ with micronaire. This shows that picker and card waste is related to grade index and that when one goes up or down the other goes in the opposite direction. It further shows that staple length and micronaire have less affect on picker and card waste than grade index since the values for these two variables are much smaller.

(7) Beta coefficients (B) in a multiple correlation are sometimes preferred over use of partial r 's. A Beta coefficient is another measure of the relative importance of a variable in a multiple correlation, with the influence of the other variables removed. Quite often, only one of these measures (Beta or partial r) is used for interpretation; both are included in this report. An asterisk beside the Beta value indicates that the result is statistically insignificant (less than three times its standard error).

Example:

The Beta (B) coefficients in the above example are $-.70$ for grade index, $-.11^*$ for staple length and $-.14$ for micronaire. This shows the same relative results as the partial correlation coefficients (r) and the * further indicates that the $-.11$ Beta value for staple length is statistically insignificant.

(8) Regression equation or estimating equation is used to predict changes in the dependent variable which will result from changes in the independent variable or variables. It is written:

$$Y = a + b_1X_1 + b_2X_2 + \dots + b_NX_N$$

where Y is the dependent variable and the X's are independent variables.

The constant "a" indicates the starting point or height of the regression line when it is to be plotted on a graph or to be used in calculating changes in the dependent variable. The regression coefficient "b" indicates the change in the dependent variable that is associated with each unit change in the independent variable. The spread or scatter of the data around the regression line is measured by the standard error. The standard error has the same relationship to the regression line as the standard deviation has to the mean value. (see paragraph (2) above)

Example: (from Table 16, column 1, page 89)

Regression equation for picker and card waste:

Constant (a)	+23.51
Regression coefficients (b)	
Grade index	-.14
Staple length	-.10
Micronaire	-.30
Standard error	±.66

With regression coefficients (b) of -.14 for grade index, -.10 for staple length and -.30 for micronaire reading the following average conditions should exist:

1. With any unit change in grade index, picker and card waste percentage should change .14 in the opposite direction.
2. With any unit change (32nd) in staple length, picker and card waste percentage should change .10 in the opposite direction.
3. With any unit change (1.0) in micronaire reading, picker and card waste percentage should change .30 in the opposite direction.

Expressing this equation algebraically we have:

Estimated picker and card waste (percent) =
23.51 - .14 (grade index) - .10 (staple length) - .30 (micronaire)

Thus if we wished to predict the amount of picker and card waste from a bale of cotton of Strict Low Middling (94 index), a staple length of 1-1/16 inches (34 32ds) and a micronaire of 4.5, the equation would be:

$$\text{Estimated picker and card waste} = 23.51 - .14(94) - .10(34) - .30(4.5)$$

$$\text{Estimated picker and card waste} = 5.60\%$$

The standard error of the equation of $\pm .66$ indicates that the actual picker and card waste obtained from this kind of cotton would be within plus or minus .66 percent (between 4.94 and 6.26) 68 times in 100.

A check on the accuracy of this figure can be made from the average results for SLM grade, 1-1/16 inch staple, in Table 3 for the different Areas.

Regression equations are given in the tables for multiple relationships only. Equations for simple relationships may be calculated by using the formula:

$$Y = a + bX$$

$$\text{where } a = \text{Mean } Y - b(\text{Mean } X)$$

$$b = r \frac{\text{Std. Dev. } Y}{\text{Std. Dev. } X}$$

INTERPRETING STATISTICAL DATA

In referring to the data presented in the tables of this report, it is well to keep in mind several factors which influence the results and could lead to erroneous conclusions.

Correlation values are significantly influenced by the specific variables included, and by their number. This is due to the interrelationships of fiber properties. As interrelated properties are added to a correlation, the specific contribution of a given property may decrease sharply while at the same time the overall correlation will increase. For example, a correlation of staple length with yarn strength usually shows a good relationship, with a large amount of the variation in yarn strength explainable by differences in staple length. But, as other measures are taken into consideration, particularly fiber strength at 1/8-inch gage, the importance of staple length in explaining the total variation in yarn strength decreases rather sharply, even though the total variation explained is increased. This situation occurs because fiber strength is more closely related to yarn strength than is staple length. Yet, when fiber strength is not included in the correlation, some of the effects of strength are evidenced through the interrelation of strength and staple length.

Perhaps the most important fact to be kept in mind is that the use of only one statistic, such as a multiple R, a partial r, or a Beta value, can lead to erroneous conclusions. In order to determine the importance of any variable, all of the statistical items for each study should be considered.

BASIS FOR INTERPRETATION

The following explanation of the data published in Tables 1 through 9 of this report may be helpful in the interpretation of test results:

Classification

Classification was made in accordance with the official Cotton Standards for grade and staple length. These results are presented under the usual terms for the individual lots but the grade values were converted to an index for averaging in the summary tables.

Grade index, as reported in the summary tables is designed to reflect differences in market value and provides a method for averaging the grade for a number of individual lots. Middling grade is used as the basis of 100, and higher or lower index numbers reflect higher or lower average market values, respectively. Index values for white, spotted, tinged and gray grades of upland cotton are shown below:

Grade Name	Grade index for					
	: White	: Light : Spotted	: Spotted	: Tinged	: Light : Gray	: Gray
Good Middling	: 105	103	101	94	99	93
Strict Middling	: 104	102	99	91	98	91
Middling Plus	: 102					
Middling	: 100	97	93	82	92	84
Strict Low Middling plus	: 97					
Strict Low Middling	: 94	89	83	75	85	75
Low Middling plus	: 90					
Low Middling	: 85	80	75	68		
Strict Good Ordinary plus	: 81					
Strict Good Ordinary	: 76					
Good Ordinary plus	: 73					
Good Ordinary	: 70					
Below Grade	: 60					

The grade of cotton is obtained by evaluating color, leaf and preparation in relation to the official standards. Grade provides an indication of fiber color and the waste content of a sample of cotton. Experience has shown the average relationship between picker and card waste and various grades of upland cotton to be approximately as given in the tabulation shown in the subsequent section on manufacturing waste. In comparing these average grade figures with the picker and card waste data, it should be understood that variations from the averages for individual samples are attributable to the nature of the extraneous material present in the cotton, the characteristics of the fiber, and whether the grade designation was low

because of poor color.

Staple length is the length of a typical portion of the fibers in the samples as determined by the classer in comparison with official standards. Uniformity of fiber length, as well as other fiber properties, influence to some extent the classer's selection of the typical portion of the fibers on which the staple length designation is based. In general, there is a fairly close relationship between the staple length as designated by the classer and the fineness and strength of the yarn that can be manufactured from the cotton. These relationships, however, are also influenced by other fiber properties, the measurements of which will be discussed in the paragraphs which follow.

Fiber Tests

Fiber length data were obtained by the Digital Fibrograph method for the short, medium, and long staple American upland samples and by the array method for the extra long American Pima and upland samples. Briefly, the Digital Fibrograph method consists of placing representative specimens of cotton weighing approximately 30 centigrams at random on a pair of combs, parallelizing the beards of cotton extending from one side of the combs, and scanning these beards photoelectrically on the instrument at 3 length intervals beginning at 0.15 inch from the teeth of the combs and ending near the outer fringe. The 2.5 percent span length and the 50/2.5 uniformity ratio values reported for each lot are based on five specimens tested by each of two technicians.

The Digital Fibrograph 2.5 percent span length values reported indicate the length which will be spanned by 2.5 percent of the fibers when they are parallel and randomly distributed. It is also the length where the amount of fibers indicated by the instrument is 2.5 percent of the amount at the starting point of 0.15 inch. The Digital Fibrograph 2.5 percent span length values are closely related to staple length designations.

The Digital Fibrograph 50/2.5 uniformity ratio values reported indicate the relative uniformity of fiber length in the samples. They represent the ratios between the 50 percent span length and the 2.5 percent span length, expressed as percentages. Larger values indicate more uniform fiber length distribution. Unusually low fiber length uniformity tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. The following adjective descriptions will serve to classify cottons from the standpoint of 2.5 percent span length and fiber length uniformity:

2.5 percent span length

50/2.5 uniformity ratio

Below 1.00 Short
 1.00 - 1.14 Medium
 1.15 - 1.29 Long
 Above 1.29 Extra-long

Below 42 Very low
 42 - 43 Low
 44 - 45 Average
 46 - 47 High
 Above 47 Very high

Data source - 1575 American upland lots tested from the crops of 1966-68.

Array tests for the extra long staple American Pima and upland samples were performed on the Suter-Webb fiber sorter. Briefly, this method consists of parallelizing the fibers in a representative 75-milligram specimen of cotton through a series of combs, separating the fibers into length groups at 1/8-inch intervals, and weighing the fibers in each length group. The upper quartile length and coefficient of variation values reported are based on one specimen tested by each of two technicians.

The array upper quartile length values reported indicate the length which is exceeded by 25 percent of the weight of the fibers in the samples. They are closely related to and longer than both the Fibrograph and the classer's staple designations. This relationship may vary, however, because the methods measure different fiber length characteristics.

The array coefficient of length variation values reported indicate the relative variability of fiber length in the samples. They represent the standard deviation of the weight-length frequencies expressed as a percentage of the mean length. Smaller values indicate more uniform fiber length distributions. Excessive fiber length variation tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. It is, therefore, considered desirable for a cotton to have a low coefficient of variation. The following adjective descriptions will serve to classify cottons from the standpoint of upper quartile length and fiber length variation:

Upper Quartile Length

Coefficient of Fiber Length Variation

Below 1.10 Short
 1.10 - 1.24 Medium
 1.25 - 1.39 Long
 Above 1.39 Extra Long

Below 26 Very low variation
 26 - 29 Low variation
 30 - 33 Average variation
 34 - 37 High variation
 Above 37 Very high variation

Data source - 830 American upland lots tested from the crops of 1958-60 (more recent data not available).

Fiber fineness and maturity in combination were determined by the micronaire test. This is an instrument test which measures the resistance of a plug of cotton to air flow. A representative standard weight of cotton fibers is placed in the instrument specimen holder and compressed to a fixed

volume. Air at a known pressure is forced through the specimen and the amount of flow is indicated by a direct reading scale. Readings obtained are relative measures of either the weight per unit length, or the cross sectional size of the fibers. Because the instrument measures may differ from the actual weight per inch, depending upon the fiber characteristics of the sample, the results are reported in terms of "micronaire reading" instead of micrograms per inch. These readings are taken from the curvilinear scale adopted in 1950, and now in international use. Fiber fineness contributes to yarn strength, particularly when fine numbers are spun, but it also tends to increase neppiness and to require a reduced rate of processing.

Fiber maturity, also an important factor affecting the appearance of yarns and fabrics, is a desirable characteristic from the standpoint of low picker and card waste. Immature fibers are susceptible to the formation of neps, and contribute to lower yarn appearance grades. The desirability of micronaire reading, therefore, depends on the specific end product or use of the cotton.

Several instruments, including the Micronaire, Fibronaire, and Port-Ar, may be used for these tests. All instruments now use the same scale and report results in the same terms, i.e. "micronaire reading". The micronaire reading is now a part of the official standards for upland cotton along with grade and staple length.

Fiber strength is an important factor in determining yarn strength. Cottons with good fiber strength usually give less trouble in the manufacturing processes than the weak fibered cottons. Tests for fiber strength were made without a space between the clamp jaws (0 gage) using the Pressley flat bundle tester, and with a 1/8-inch spacer between the clamp jaws (1/8-inch gage) using the Stelometer. Strength results from both the Pressley and the Stelometer were controlled at the same level by use of standard calibration cottons. Use of the Stelometer also provides a measure of fiber elongation. Comparative tests have shown that the results of the 1/8-inch gage tests are more highly correlated with yarn strength than the results of the zero gage tests. Results for both methods are reported, however, because the zero gage tests are widely used by the cotton industry.

The results for the Pressley zero gage test are reported in terms of thousand pounds per square inch, as calculated by the use of Formula 1. These results may be converted to other methods of expressing fiber strength by use of Formulas 2, 3, and 4:

$$(1) \text{ Thousand pounds per square inch (Mpsi) } =$$

$$\frac{\text{breaking load in lb} \times 10.81}{\text{bundle weight in mg}}$$

$$(2) \text{ Grams per tex (gm/tex) } = \text{Mpsi} \times 0.496$$

(3) Strength-weight ratio = Mpsi \div 10.81

(4) Strength-weight ratio = gm/tex \div 5.36

The results of the 1/8-inch gage tests are reported in terms of grams per tex in accordance with the recommendations of the American Society for Testing and Materials (ASTM), and the International Standards Organization (ISO). A tex unit is equal to the weight in grams of 1000 meters of the material. There is a correlation between the 1/8-inch gage strength test results and fiber length. Cottons with short lengths tend to have lower average strength values than long staple cottons. Results for 1/8-inch gage tests are calculated by use of Formula 5. Stelometer results are adjusted to Pressley level by use of calibration cottons.

(5) Grams per tex = $\frac{\text{breaking load (kg)} \times 15}{\text{bundle weight in mg}}$

The following descriptive terms may be applied to the data shown in this report:

<u>Staple length group and descriptive designation</u>	<u>Zero gage strength (thousand psi)</u>	<u>1/8-inch gage strength (grams per tex)</u>
Short staple:		
Low	70 - 75	18 - 19
Average	76 - 81	20 - 21
High	82 - 87	22 - 23
Medium staple:		
Low	74 - 80	20 - 21
Average	81 - 87	22 - 23
High	88 - 94	24 - 25
Long staple:		
Low	85 - 88	23 - 24
Average	89 - 92	25 - 26
High	93 - 96	27 - 28
Extra-long staple:		
Low	93 - 96	31 - 32
Average	97 - 100	33 - 34
High	101 - 104	35 - 36

Data source - 291 short staple, 1206 medium staple, 78 long staple, and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Fiber elongation results were obtained in connection with the 1/8-inch gage fiber strength tests by using the Stelometer instrument. The following adjective ratings will assist in the interpretation of the fiber elongation results reported:

<u>Descriptive designation</u>	<u>Fiber elongation (percent)</u>
Very low	5.3 and below
Low	5.4 - 6.2
Average	6.3 - 7.1
High	7.2 - 8.0
Very high	8.1 and above

Data source - 1575 American upland lots tested from the crops of 1966-68.

Color measurements were made on samples of raw stock from each lot by using the Nickerson-Hunter Colorimeter. The basic color values reported are in terms of grayness and yellowness scales designed especially for cotton. The grayness scale ranges from 0 for the brightest samples (no gray) through 9 for the darkest color. The yellowness scale ranges from 0 for the lightest color (no yellow) to 9 for the yellowest color. In other words, the larger the number reported the darker or yellower the cotton becomes. The relationship of these new cotton color scales to Rd and +b values and to the color of the Universal Grade Standards for upland cotton is shown in Figure 2 and for American Pima cotton in Figure 3.

The color of raw cotton is also reported as a single index number. The relationship of the index number to Rd and +b and the color of the Universal Grade Standards for upland cotton is shown in Figure 4.

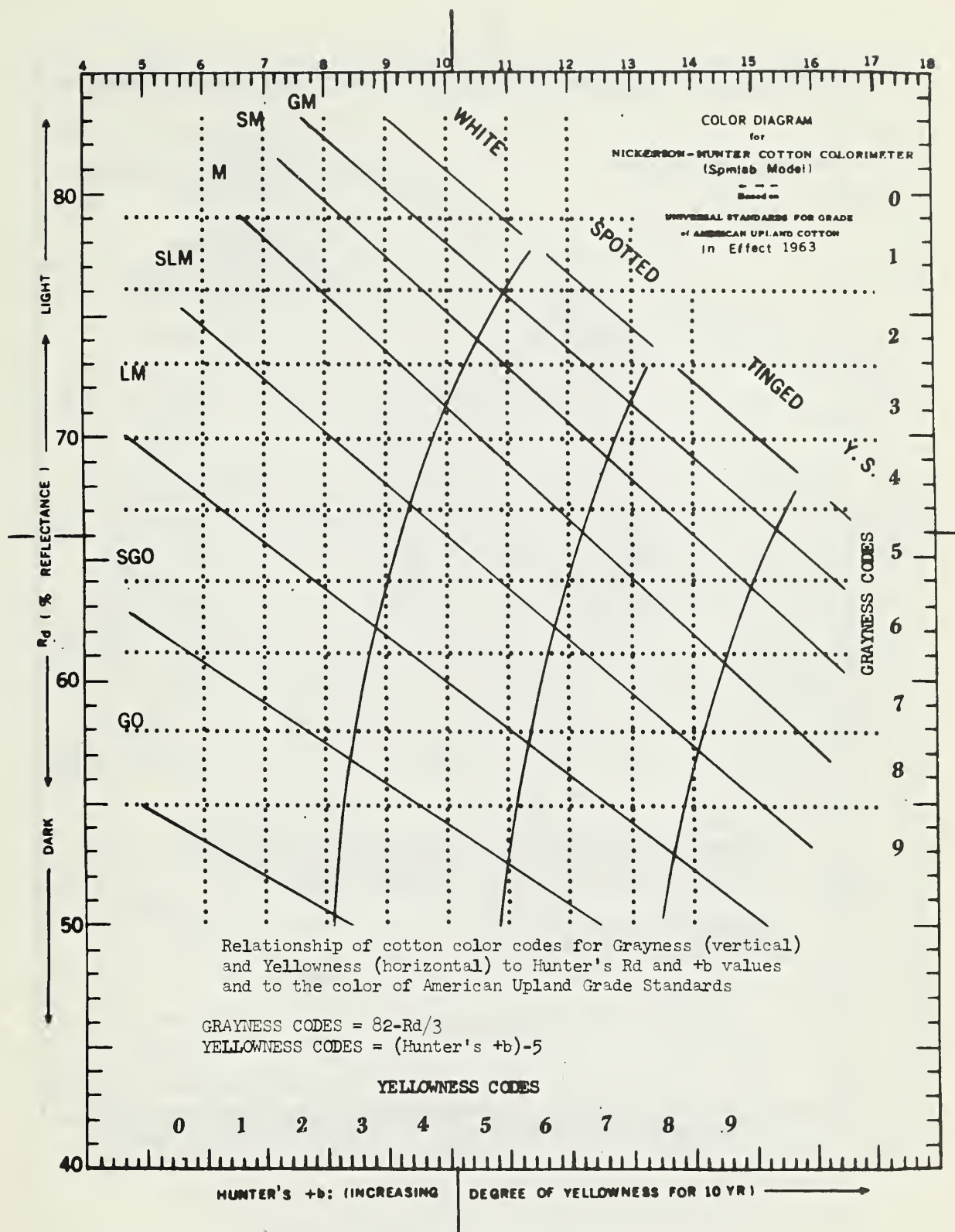


Fig. 2--Colorimeter diagram for upland cotton

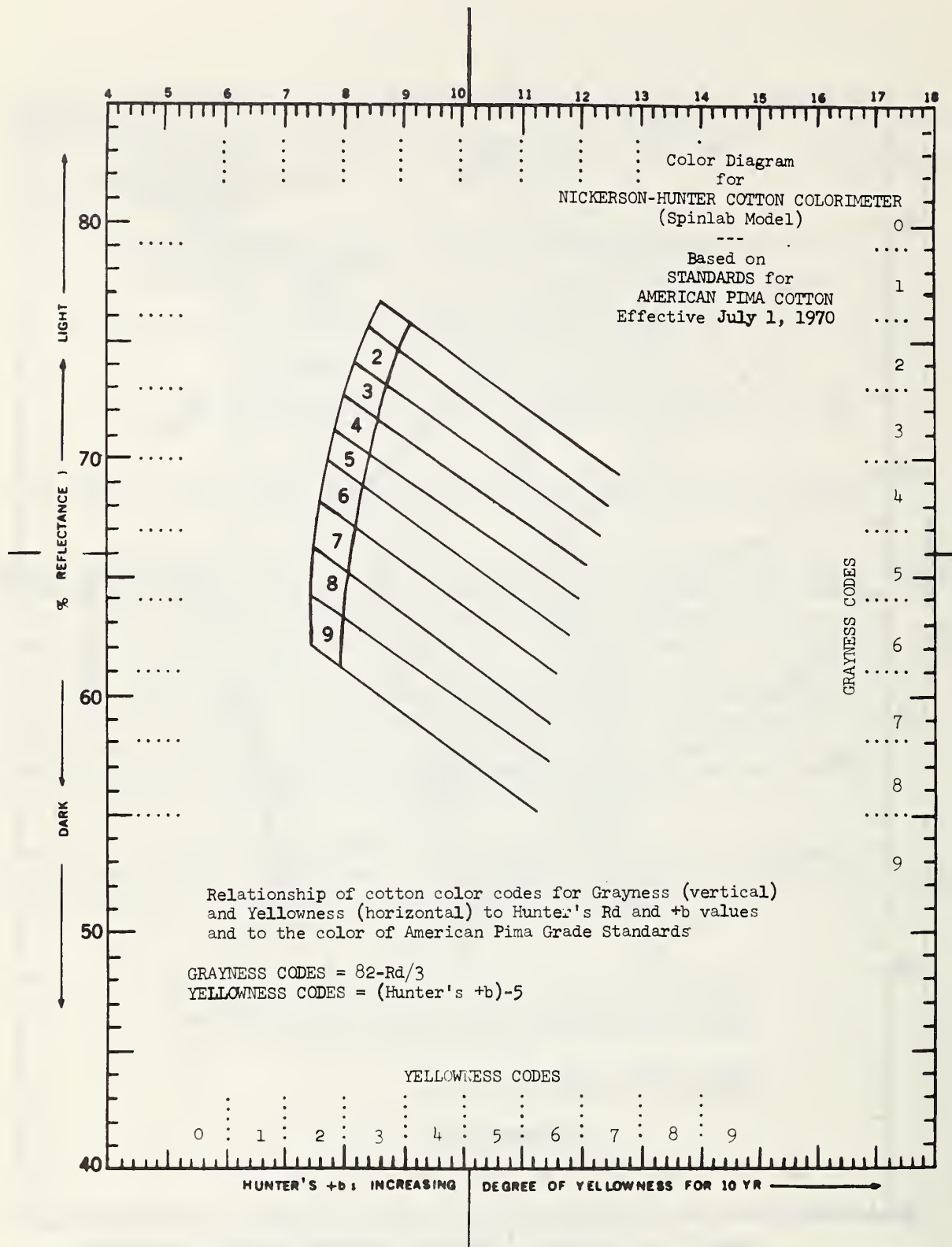


Fig. 3--Colorimeter diagram for American Pima cotton

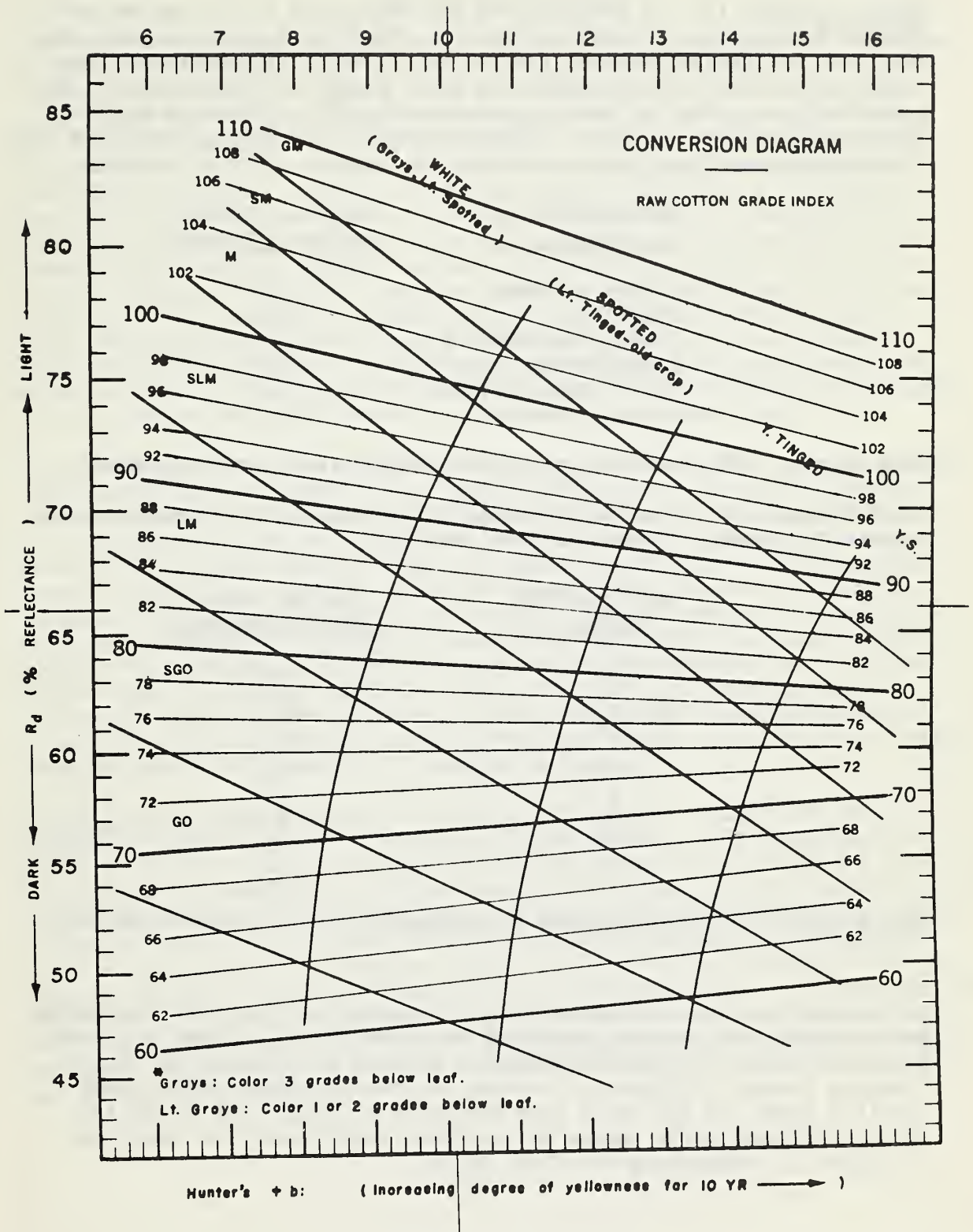


Fig. 4--Conversion diagram for converting raw cotton color to color index

Nonlint content for the various lots was determined by the use of the Shirley Analyzer which separates the lint from the foreign matter. The total nonlint values reported include both visible and invisible loss. These results are distinguished from total picker and card waste in that practically no fiber is included, whereas textile mill wastes include appreciable amounts of fiber. Tests performed in previous years show the following average relationship of Shirley Analyzer nonlint to grade:

<u>American upland grade</u>	<u>Average nonlint content (percent)</u>
Strict Middling	1.8
Middling	2.3
Strict Low Middling	3.0
Low Middling	4.2
Strict Good Ordinary	5.5
Good Ordinary	6.7

Data source - 5561 American upland lots tested from crops of 1966-68.

The following scale has been developed to represent the average nonlint content for grades of American Pima cotton:

<u>American Pima grade</u>	<u>Average nonlint content (percent)</u>
1	2.0
2	2.5
3	3.0
4	4.1
5	5.4
6	6.3
7	8.4
8	9.9
9	12.2

Data source - 431 American Pima lots tested from the crops of 1966-68.

Differences between results obtained for individual lots and the average percentages shown for the grades may be caused by: (1) Grade is a combination of color, leaf and preparation; any one of which may be the limiting factor, (2) there is a range of trash allowable within each specific grade and (3) these data are based on weight and do not take into consideration the nature of the trash, which may be as important as weight in determining the final grade.

Yarn Processing Tests

The results of yarn processing tests reported in this summary were obtained by procedures adopted in 1962 which include heavier weights for laps, slivers and rovings than those used in previous years. These procedures also include spinning from single roving instead of double roving for the two standard yarn numbers and the spinning of a third yarn number on all the samples to provide a small-scale measure of spinning end-breakage or spinning performance. In 1965, metallic card clothing was installed on the carding machines to replace the conventional fillet clothing used previously, and in 1966, crusher rolls were installed on the card machines. These changes reflect similar changes that have taken place in the cotton textile industry including increased emphasis on running quality since the Mid-1940's when long-draft systems were adopted for both the roving and spinning processes in the routine laboratory spinning test procedures. These changes were designed to bring the laboratory processing procedures more in line with current textile mill practices and thus make the processing evaluations more applicable to present day mill operations.

The card production rate employed and the yarn numbers spun for each cotton were selected on the basis of the staple length expected in the specified area of growth as described in the earlier section on test procedures. Four different length groupings were used to cover the range of cottons grown in this country and to approach commercial practices in processing these cottons. The spinning twist multipliers were selected to provide maximum yarn strength on the basis of staple length. Details of the spinning test procedures are shown at the end of this section of the report (Table 25). Results of previous tests show that decreasing the card production rate results in fewer neps, improved yarn appearance grades, and removal of more waste at the card. Results of tests on the various lots should therefore be compared directly for only those lots in the same length group which were processed in a comparable manner.

Manufacturing waste reported for a sample of cotton is important because excessive waste increases the cost of cotton products. The percentage of waste extracted by the picking and carding processes in performing a spinning test provides a measure of manufacturing waste. There is an average relationship between this waste and grade as discussed in the previous section on the grade of cotton. The rate at which the cotton is carded, however, affects the picker and card waste values because the more thorough carding action obtained when the carding rate is decreased extracts a larger quantity of waste. The longer staple cottons are generally carded at a lower rate than the shorter cottons in order to obtain acceptable yarn quality. Tests performed in recent years show the following average relationship of picker and card waste to grade:

American upland grade	Average picker and card waste (percent)	American Pima	Average picker and card waste (percent)
Strict Middling	4.7	1	7.5
Middling	5.1	2	7.9
Strict Low Middling	5.7	3	8.4
Low Middling	6.7	4	9.5
Strict Good Ordinary	7.8	5	10.8
Good Ordinary	8.9	6	11.7
		7	13.7
		8	15.2
		9	17.5

Data source - 5561 samples of American upland cotton and 431 samples of American Pima cotton tested for Shirley Analyzer nonlint content from the crops of 1966-68 and picker and card waste calculated from its relationship to Shirley Analyzer nonlint content.

The percentage of waste removed by the comber is reported in addition to the picker and card waste for cottons processed into combed yarn. The shorter staple cottons are processed through the comber with a closer setting than for the longer staple cottons because smaller comber waste percentages are usually extracted from this cotton in commercial practice.

Yarn strength is perhaps the most important and reliable test of yarn quality. Yarn strength not only determines the range of usefulness of a given cotton, but is also an indication of spinning and weaving performance. Yarn strength is reported in terms of skein strength since studies have shown that such strength values are more closely related to fabric strength as well as to fiber properties than single strand yarn strength. Skein strength data for the two numbers spun are reported for each lot. There is an average relationship between yarn strength and staple length but it varies for the individual cottons because of differences in other characteristics of the fiber.

The following descriptive terms may be of help in determining the relative level of yarn strength in this report:

<u>Kind of yarn, staple length group and description</u>	<u>Yarn skein strength in pounds for the specified yarn numbers</u>	
Carded yarns:		
Short staple group:	<u>8s</u>	<u>22s</u>
Low	265 - 290	78 - 86
Average	291 - 316	87 - 95
High	317 - 342	96 - 104
Medium staple group:	<u>22s</u>	<u>50s</u>
Low	95 - 104	30 - 35
Average	105 - 114	36 - 41
High	115 - 125	42 - 47
Long staple group:	<u>22s</u>	<u>50s</u>
Low	125 - 131	45 - 48
Average	132 - 138	49 - 52
High	139 - 145	53 - 56
Combed yarns:		
Long staple group:	<u>22s</u>	<u>50s</u>
Low	142 - 149	52 - 55
Average	150 - 157	56 - 59
High	158 - 165	60 - 63
Extra-long staple group:	<u>50s</u>	<u>80s</u>
Low	66 - 68	36 - 37
Average	69 - 71	38 - 39
High	72 - 74	40 - 41

Data source - 291 short staple, 1206 medium staple, 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Yarn elongation results were obtained in connection with yarn skein strength tests. Elongation in the yarn is highly correlated with fiber elongation. Yarns with high elongation give less end breakage in weaving than yarns with low elongation.

The following descriptive terms may be of some help in determining the relative levels of yarn elongation:

<u>Kind of yarn, staple length group, and description</u>	<u>Yarn elongation in percent for the specified yarn numbers</u>	
Carded yarns:		
Short staple group:	<u>8s</u>	<u>22s</u>
Low	6.5 - 7.3	5.5 - 6.2
Average	7.4 - 8.1	6.3 - 7.0
High	8.2 - 9.0	7.1 - 7.8
Medium staple group:	<u>22s</u>	<u>50s</u>
Low	5.4 - 5.9	4.0 - 4.5
Average	6.0 - 6.5	4.6 - 5.1
High	6.6 - 7.1	5.2 - 5.7
Long staple group:	<u>22s</u>	<u>50s</u>
Low	6.2 - 6.5	5.2 - 5.4
Average	6.6 - 6.9	5.5 - 5.7
High	7.0 - 7.3	5.8 - 6.0
Combed yarns:		
Long staple group:	<u>22s</u>	<u>50s</u>
Low	6.6 - 6.9	5.5 - 5.7
Average	7.0 - 7.3	5.8 - 6.0
High	7.4 - 7.7	6.1 - 6.3
Extra-long staple group:	<u>50s</u>	<u>80s</u>
Low	5.6 - 5.8	4.6 - 4.8
Average	5.9 - 6.1	4.9 - 5.1
High	6.2 - 6.4	5.2 - 5.4

Data source - 291 short staple, 1206 medium staple and 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Yarn Appearance refers to the relative evenness, smoothness and freedom from foreign material of the yarn as evaluated by a visual comparison of the yarn with the latest standards adopted by the American Society for Testing and Materials. Since appearance is very important in many types of cotton products, high yarn appearance grades are desirable. The following descriptive terms may be of help in determining the relative levels of yarn appearance in this report.

<u>Kind of yarn, staple length group, and description</u>	<u>Yarn appearance index for the specified yarn numbers</u>	
Carded yarns:		
Short staple group:	<u>8s</u>	<u>22s</u>
Low	105 - 113	92 - 104
Average	114 - 122	105 - 117
High	123 - 130	118 - 130
Medium staple group:	<u>22s</u>	<u>50s</u>
Low	93 - 105	77 - 87
Average	106 - 118	88 - 98
High	119 - 130	99 - 109
Long staple group:	<u>22s</u>	<u>50s</u>
Low	71 - 86	65 - 78
Average	87 - 102	79 - 92
High	103 - 118	93 - 106
Combed yarns:		
Long staple group:	<u>22s</u>	<u>50s</u>
Low	81 - 97	70 - 85
Average	98 - 114	86 - 101
High	115 - 130	102 - 117
Extra-long staple group:	<u>50s</u>	<u>80s</u>
Low	102 - 111	98 - 106
Average	112 - 121	107 - 115
High	122 - 130	116 - 124

Data source - 291 short staple, 1206 medium staple, 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Yarn Appearance Grades

<u>Grade</u>	<u>Index</u>
A	130
B+	120
B	110
C+	100
C	90
D+	80
D	70
Below D	60

Yarn imperfections are reported for the two yarn numbers spun for each lot of cotton. These results were obtained on "Neptel" instruments which electronically count the abrupt changes in the silhouette of the yarn while passing it through a beam of light. They are expressed as the number of imperfections per 50 yards of yarn and are based on the average of 10 determinations. This value is an instrument measure of product quality which is associated with the characteristics of the cotton. It is more highly correlated with fiber properties than either neps in card web or yarn appearance grade. The following descriptive terms may be of help in determining the relative level of yarn imperfections in this report:

<u>Kind of yarn, staple length group, and description</u>	<u>Yarn imperfections for the specified yarn numbers</u>	
Carded yarns:		
Short staple group:	<u>8s</u>	<u>22s</u>
Low	6 - 31	6 - 21
Average	32 - 57	22 - 37
High	58 - 83	38 - 53
Medium staple group:	<u>22s</u>	<u>50s</u>
Low	3 - 15	2 - 11
Average	16 - 28	12 - 21
High	29 - 41	22 - 31
Long staple group:	<u>22s</u>	<u>50s</u>
Low	7 - 22	6 - 17
Average	23 - 38	18 - 29
High	39 - 54	30 - 41
Combed yarns:		
Long staple group:	<u>22s</u>	<u>50s</u>
Low	0 - 8	0 - 6
Average	9 - 20	7 - 16
High	21 - 32	17 - 26
Extra-long staple group:	<u>50s</u>	<u>80s</u>
Low	0 - 1	0 - 1
Average	2 - 3	2 - 3
High	4 - 5	4 - 5

Data source - 291 short staple, 1206 medium staple, 78 long staple and 67 extra-long staple lots of cotton tested from the crops of 1966-68.

Spinning potential yarn number indicates the finest yarn number that can be spun from a cotton sample without any end-breakage when using specific processing procedures. In performing these tests, new travelers, draft gears, and twist gears are installed for the selected yarn number and it is spun for a 15-minute trial period. The yarn number selected is considered acceptable if there is an end-breakage involving 5 to 15 of the 96 spindles employed during the trial run. If end-breakages occur on less than 5 or more than 15 of the 96 spindles during the trial period, a different yarn number is selected to be spun for another 15-minute trial period until the acceptable end-breakage rate is obtained. The acceptable trial period is also used for a warm-up period which is followed by a 1-hour test period. The spinning potential yarn number is calculated from the deviation of the actual yarn number spun from the desired yarn number and the number of spindles with end-breakages during the 1-hour test run. The following descriptive terms may be of help in determining the relative level of spinning potential yarn numbers in this report:

	<u>Spinning Potential (SPY No.)</u>		
	<u>Short staple group</u>	<u>Medium staple group</u>	<u>Long staple group</u>
Low	31 - 39	55 - 63	77 - 83
Average	40 - 48	64 - 72	84 - 90
High	49 - 57	73 - 81	91 - 97

Data source - 123 short staple, 688 medium staple and 48 long staple lots of cotton tested from the crops of 1967-68.

Chemical Finishing Tests

Information with respect to the bleaching and dyeing properties of different varieties and growths of cotton is of particular significance to textile manufacturers from the standpoint of providing a basis for avoiding problems that may result from blending different varieties and growths having different dyeing properties. Data with respect to the chemical finishing properties of the principal varieties and growths of cotton as herein reported may thus be used as a basis for selecting cottons of similar finishing properties. Details of the chemical finishing tests are described in Agricultural Information Bulletin No. 167 - "Bleaching, Dyeing, and Mercerizing Test Results on Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1955".

Color measurements of cotton yarn samples were made on a Gardner Automatic Color Difference Meter. These values are reported in terms of R_d and b , two of the three scales on the instrument. The R_d scale measures percentages of diffuse reflectance from 0 to 100. The b scale provides a measure of yellowness in the direction of $+b$ and of blueness in the direction of $-b$. The degree of either yellowness or blueness increases as the scale numbers increase. These data when plotted with R_d on the vertical ordinate and with

b on the horizontal ordinate are similar to the color values for raw cotton when plotted in relation to the official grade standards as described in the earlier section on color of raw stock.

While the color factors R_d and b are not independent of each other and should be considered together in any overall interpretation, for many purposes it would be convenient in evaluating results to have them in terms of a single number. For raw cotton the grade index provides one way to do this in a straightforward manner. A similar method has been followed in developing conversion formulae and diagrams for each form of cotton measured for color as a part of the chemical finishing studies of the Cotton Division. In each, the index for Middling is held at 100 and that for Good Ordinary is held close to 70. By use of such indices the color measurements of raw stock, gray yarns, bleached yarns, and bleached and dyed yarns may be converted to a single number specification. For details see "Grade and Color Indexes Developed for Evaluating Results of USDA Cotton Finishing Tests", (AMS-245, June 1958).

Table 25.--Cotton: Standard machine settings and specifications for processing specified staple length groupings

Process	Staple length groups			
	Short	Medium	Long	Extra long
1. PICKER				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Each test lot is processed through a finisher type picker twice to produce the specified weight of lap.....ounces per yard	14	14	14	11
Type of beater.....	Kirschner	Kirschner	Kirschner	2-blade
Beater speed.....r.p.m.	1,000	1,000	1,000	1,000
Settings:				
Feed roll to beater.....inches	3/16	3/16	3/16	3/8
Grids to beater, top.....inches	5/16	5/16	5/16	9/16
Grids to beater, bottom.....inches	11/16	11/16	11/16	11/16
2. CARD				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Picker lap fed.....ounces per yard	14	14	14	11
Sliver delivered.....grains per yard	50	50	50	40
Production rate.....pounds per hour	12-1/2	9-1/2	6-1/2	4-1/2
Doffer speed.....r.p.m.	11	8	6	4
Cylinder speed.....r.p.m.	165	165	165	165
Flat speed.....inches per minute	2-7/8	2-7/8	2-7/8	2-7/8
Licker-in speed.....r.p.m.	435	435	435	435
Clothing:				
Cylinder, Hollingsworth metallic.....number	35	35	25	25
Doffer, Hollingsworth metallic.....number	29	29	29	29
Flats, Fillet.....number	110	110	130	130
Settings:				
Feed plate to licker-in.....inches	.010	.010	.010	.017
Mote knife to licker-in, top.....inches	.012	.012	.012	.012
Mote knife to licker-in, bottom.....inches	.010	.010	.010	.010
Licker-in screen, front.....inches	.029	.029	.029	.029
Licker-in screen, back.....inches	.017	.017	.017	.017
Licker-in to cylinder.....inches	.007	.007	.007	.007
Flats to cylinder, back, center, and front.....inches	.009	.009	.009	.009
Back plate to cylinder, top.....inches	.029	.029	.029	.029
Back plate to cylinder, bottom.....inches	.034	.034	.034	.034
Front plate to cylinder, top.....inches	.029	.029	.029	.029
Front plate to cylinder, bottom.....inches	.034	.034	.034	.034
Doffer to cylinder.....inches	.007	.007	.007	.007
Cylinder screen, back.....inches	.029	.029	.029	.029
Cylinder screen, center.....inches	.034	.034	.034	.034
Cylinder screen, front.....inches	3/16	3/16	3/16	3/16
Doffer comb to doffer.....inches	.022	.022	.022	.022
Crusher rolls pressure.....pounds	281	281	281	281
3. SLIVER LAPIER (combed only)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Sliver fed, 20 each.....grains per yard	--	--	50	40
Lap delivered.....grains per yard	--	--	595	525
Speed.....yards per minute	--	--	46	46
Roll settings (center to center):				
First to second.....inches plus fiber length 1/	--	--	5/16	5/16
Second to third.....inches plus fiber length 1/	--	--	9/16	9/16

1/ Allowances listed are in addition to fiber lengths in terms of "pulls" made on card sliver. These pulls are estimated from Fibrograph length tests except for extra long staple cottons.

Table 25 ---Cotton: Standard machine settings and specifications for processing specified staple length groupings--Continued

Process	Staple length groups			
	Short	Medium	Long	Extra long
4. RIBBON LAPPER (combed only)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Laps fed, 4.....grains per yard	--	--	595	525
Laps delivered.....grains per yard	--	--	610	610
Speed.....yards per minute	--	--	47	47
Roll settings (center to center):				
First to second.....inches plus fiber length $\frac{1}{16}$	--	--	4/16	4/16
Second to third.....inches plus fiber length $\frac{1}{16}$	--	--	7/16	7/16
Third to fourth.....inches plus fiber length $\frac{1}{16}$	--	--	10/16	10/16
5. COMBER (Model D-4)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Laps fed, 8 each.....grains per yard	--	--	610	610
Sliver delivered.....grains per yard	--	--	50	40
Production per hour.....pounds	--	--	16	13
Setting of cushion plate to detaching roll.....inches	--	--	.48	.54
Nominal waste.....percent	--	--	16 to 17	16 to 17
6. DRAWING FRAME (synthetic top rolls)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
First process:				
Sliver fed, 6 each.....grains per yard	50	50	50	40
Sliver delivered.....grains per yard	60	53	53	42
Second process:				
Sliver fed, 6 each.....grains per yard	60	53	53	42
Sliver delivered.....grains per yard	70	55	55	44
Speed.....yards per minute	36	36	36	36
Roll settings (center to center):				
First to second.....inches plus fiber length $\frac{1}{16}$	4/16	4/16	4/16	4/16
Second to third.....inches plus fiber length $\frac{1}{16}$	7/16	7/16	7/16	7/16
Third to fourth.....inches plus fiber length $\frac{1}{16}$	10/16	10/16	10/16	10/16
7. LONG DRAFT ROVING (8 x 4, 2 apron type)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Sliver fed.....grains per yard	70	55	55	44
Roving delivered.....hank	1.10	1.80	1.80	4.25
Spindle speed.....r.p.m.	1235	1235	1235	1235
Roll settings (center to center):				
First to second, standard.....inches	2-1/4	2-1/4	2-1/4	2-1/4
Third to fourth.....inches plus fiber length $\frac{1}{16}$	1/4	1/4	1/4	1/4
8. LONG DRAFT SPINNING (2 apron type)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	65	65	65	65
Roving fed single.....hank	1.10	1.80	1.80	4.25
Twist multiplier.....number	4.4	4.0	3.8	3.6
Carded yarns.....number $\frac{2}{16}$	8s & 22s	22s & 50s	22s & 50s	--
Combed yarns.....number	--	--	22s & 50s	50s & 80s
Spindle speed.....r.p.m. $\frac{3}{16}$	9000	9000	9000	9000
Roll settings (center to center):				
First to second, standard.....inches	2-1/16	2-1/16	2-1/16	2-1/16
Second to third, standard.....inches	1-3/4	1-3/4	1-3/4	1-3/4

2/ Additional yarn is spun on a 96 spindle wide gage frame at 9,000 r.p.m. spindle speed to determine the spinning potential yarn number or the finest yarn number that can be spun without end-breakage.

3/ All standard yarn numbers are spun on narrow gage frames with spindle speeds of 9,000 r.p.m. except for 8s, which are spun on a wide gage frame with spindle speed of 5,500 r.p.m.



